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Science Education

ABSTRACT

while this guide was designed specifically for teachers in Montgomery County, Maryland, Schools, much of the material can be used by individuals nationwide. Contents include nature studies, pollution, energy, land use, environmental design, recreation, and government and the public aspect. Rescurces listed under these headings include films, textbooks, multimedia materials, guest speakers, and environmental units. Attempts have been made to list materials appropriate to grades K-12 and to label them according to age or grade levels. Further sections of the guide list organizations, newsletters, periodicals, and guides having to do with the environment. The format of this publication is in the style of the Whole Earth Catalog, having illustrations interspersed among the columns of resource materials. Where possible or appropriate, a brief description of the materials is included. (MA)

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ORGANIZATIONAL HELP Concern, Inc. Alice Linkins Environmental Defense-Fund Environmental Action

OUTSIDE PROS Don Cook Jeff Meetre Wollie Sheckeils Karen Dowling John Cary/Stone Rockville Municipal Library Staff Jack Buiston

INSPIRATIONS Barry Commoner

The Hirschorn Museum

Join Valleant, in memorium

The Whole Earth people for their wonderful and wildoutlook on life and things

INTRODUCTION

The Environmental Education Resource Guide is an outgrowth of the earlier effort on the part/of the Division of Environmental Education to provide assistance to those Montgornery County Public School teachers wishing to supplement their regular programs with environmental studies. The effort began in 1971 and resulted in a draft document which included a resource list, an illustrative unit, and several matrices and tables which attempted to show the relationship between environmental education and the science and locial studies programs. However, it became apparent that the document was too ambitious in its scope. The task of interrelating environmental education to science and aocial studies programs, which themselves were undergoing revisions proved particularly difficult. Also, a number of educators who had seen the draft questioned the necessity of including a unit the guide in light of the general availability to the schools of commercially developed materials. To resolve these difficulties, the document was revised and simplified; and only the resource concept was retained.

The Environmental Education Resources Guide in its new format contains sine of the resources listed in the old guide, together with many entries and categories of entries which have been added. Some of these, not found in conventional bibliographies, include newsletters and identify local parks, field trip sites, and human resources. All resources are grouped according to main topics.

Butore an item was included in the guide these questions were raised: How inexpensive and accessible is the resource? How useful will it be in promoting active, hands on types of learning activities? What is the environmental worth of the resource?

In compiling the guide, an attempt was made to include as wide a variety of resources as possible; e.g. films, textbooks, multimedia materials, guest speakers, and environmental units. Since environmental education encompasses Grades K-12, every effort was made to include enough material for all these levels. Whenever possible, age groups or grade levels are indicated in resource descriptions.

A unique feature of the guide is an extensive list of abstracts of environmental units which were produced by school districts and educational institutions throughout the nation. Many of these units are of excellent quality, including learning objectives, maps, charts, and other information useful to the classroom teacher Reproductions of some of these can be obtained at the MCPS Educational Services Center.

In compiling the resource lists, special consideration was given to those resources available either within Montgomery County or the gleater Washington metropolitan area. For example, local sites for field trips such as Carderock and Turkey Run are given more prominence than those in more remote areas. Similarly, the list of gleat speakers and human resources has a distinctly local flavor — but not to the exclusion of prominent riational environmental organizations such as the National Audubon Society.

The format of the Environmental Resource Guide was inspired to a degree by the Whole Earth Catalog, with pictures and illustrations interspersed in the columns. The teachers and students who assembled the guide hope this will make provising through the lists more enjoyable. In the process, it is hoped that you will find much which helps you in your efforts to share with young people knowledge of and concern for the environment.



-

BOOKS

Adventures in Environment. Morristown, N.J. Silver. Burdett Company, 1971

Avextbook for Grades 6-8, published by the National Environmental Education Development (NEED) Chapter topics include wind, plants, animals, noise, water and mapping. Each chapter also has simulation exercises to acquaint the student with the subjects and their problems

Billington, Ehzabeth J. Understanding Ecology. New York: Frederick Warne and Co., 1971

Commoner, Barry The Closing Circle. New York Bantam Books, 1972, pap \$1.95

Commoner is not only a professional scientist; he is also one of firmerica's most highly regardled teachers. He uses many forums to hammer away repeatedly on behalf of environmentalism. Late night talk shows, magazine interviews, lectures, and books. In *The Closing Circle*, Commoner 'states' that our massive environmental pollution problems have not been caused primarily by overpopulation, nor by increasing wealth, but they have stemmed mainly from technological changes since World War II.

Commoner's laws of ecology.

"Everything is connected to everything else"

"Everything has got to go somewhere"

"There is no such thing as a free lunch in nature"
"Nature knows best."

Environmental Education: An Annotated Bibliography, 1974. N E.A. (National Environmental Education) Publications Order Department The Academic Bld., Saw Mill Rd., West Haven, Conn., 06516 Order Stock #381-12096, \$1 00

Falk, Richard A This Endangered Playet: Prospects and Proposals for Human Survival. Rev 1972

Farb, Peter Ecology. New York Time Life Books, 1963, rev 1970

The following list of books is highly recommended environmental reading for children Grades K-6·
"Noah's Ark, by Gail E Haley New Yark Atheneum,

The Dead Tree, by Alvin Tresselt New York Parents, 1972

My Side of the Mountain, by Jean George New York Dulton, 1976

Let's Look Under the City, by Herman and Nina Schneider Reading, Mass.. Addison Wesley, 1974

Gay-Neck, The Story of a Pigeon, by Dhan Gopal Mukerji. New York. Dulton, n.d.

Environmental Resource Papers in the "Investigating Your Environment" Program. Book 1 The Environment: Some Viewpoints; Book 4 Human Population; Book 5 Solid Waste; Book 6 Pesticides; Book 7 Land Use; Book 8 Water Quality. Menlo Park, Ca & Addison Wesley Publishing Co., 1975

Leopold, Aldo A. A Sand County Almanac and Sketches Here and There. New York Oxford University Press, 1968

Nash, Roderick (ed.). The American Environment: Readings in the History of Conservation. Reading, Mass. Addison-Wesley Publishing Co., 1996

Nobile, Philip Complete Ecology Fact Book. Garden City, N.Y. Doubleday Press, 1972

Whole Earth Epilogue. Baltimore Penguin Books, n.d. (by POINT)

Whole Earth is a catalog that has to be seen (and read) to be believed. It "functions as an evaluation and access device With it, the user should know better what is worth getting and where and how to do the getting".

Contents include sections on whole systems, land use, shelter, soft technology, crafts, community, nomadics, communications, and learning

Whole Earth's style is brash and personal Its viewpoint is organic and slightly counterculture. It advertises a diversity of resources that can be used for learning about, coping with, and living in today's world. There are hundreds of "how to" books reviewed (how to make adobe bricks, solar houses, environmental toilets, organic gardens, etc.)

Many of Whole Earth's items deal directly or indirectly with the environment and with environment at education Besides books, many other items are cataloged — ice cream makers, kayaks, records, games, etc Environmental organizations are listed, along with their newsletters and magazines

CURRICULUM AIDS

Aids to Environmental Education, Grades 4-6
Booklet, 37 pp Available from HEW

Lists bibliographies, books, curriculum materials, film strips, graphics, magazines, and newsletters which will help students analyze their experience and ayrithesize them

Aids to Environmental Education, Grades 79 Booklet, 44 pp. Available from HEW

Aids to Environmental Education; Grades 10.14 Booklet, 47 pp. Available from HEW. See description above All Around You — An Environmental Study Guide.

Book, 160 pp Illustrated Available directly from U S
Department of the Interior, Bureau of Land Management

This study guide contains activities for interdisciplinary environmental studies in the classroom, the school yard, the community, and the natural and rural environments

Blue Prints for Action. Girl Scouts of America, 830° Third Ave. NY, NY 10022 1973

This Girl Scout Environmental Action Booklet contains 25 outdoor or community action type activities Examples, cleaning a niver, making a gravel pit into a recreation area; building a nature trail, restoring a pond, and lobbying for more environmentally sound packaging

Contours Studies of the Environment Series.

William A Andrews (ed) Englewood Cliffs, N J
Prentice Hall, 1992
Series includes

A Guide to the Study of Freshwater Ecology

A Guide to the Study of Soil Ecology .

A Guide to the Study of Terrestrial Ecology

A Guide to the Study of Environmental Pollution

Ecology Action Pack. The McDonald Corporation,
Oak Brook, III 60521 (For sample of material, see
TREES section, "recycling paper" activity)

Ecology Packets in French and German. Contains cartoons, activities, articles, and plays concerning environmental action and problems presented in French and German, available from Minnesota State Department of Education, Capital Square Building, St Paul, Minn 55101 Wisconsin, Department of Public Instruction, 126 Langdon St, Madison, Wis 53702

Activities for Junior and Segior High

Energy and Man's Environment — Activity Guide, by Thomas Rise Seattle University of Washington Press, 1973 Permission is granted for use by non profit educational organizations

Students make their own soap Dissolve a 13-oz can of ordinary household lye* in more than a quart of cold water Do not use an aluminum vessel Melt 6 lbs of clean fat in a large beaker Pour lye into fat solution Mix very slowly Stir for 30 minutes or more: Pour soap slowly into molds, and allow to harden for one week

Compare the cost of this soap to that of store bought soap. What are the advantages and disadvantages of making one's soap?

(CAUTION LYE IS DANGEROUS)



Environmental	Discovery Serie	. Edited and
blished by Nat	nonal Wildlife Fed	eration. The states
		roomental, Science
		bach booklet m
		ether and carefully
describes and i	Instrates activities	and experiments for:
children to per	form.	

the series is attracted describes and illustrachildren to perform	rates activities and e	r and care experiment ade vel . Pr	ts for:	Genetic Variation Transect Studies	4.9	1.50
Plants in the Classroo				Soil	2.9	1.50
Vacarit Lot Studies	. 5	9	1.50	Plant Puzzles	1-6	1.50
Differences in Living	Things , -4	-8 1	1.00	Tile Patterns and Graphs	1-2	i,00
Shadows	1.	-8 ₋ 1	1.00	Brine Shrimp and the Habitat	15	;1 50
Wind S	3	6 , 1	1.50 _	-Nature's Part in Art	36	1.50
Snow and Ice	1	6 ' 1	1.50	Change in a Small		1.00
Man's Habitat	City 4	9 📢 1	1.50	Ecosystem Contour Mapping	5.9 4.9 •	1.50 1.50
Fish and Water Terns	erature 4	9 1	1.50	Stream Profiles	4-9	1 00
Oaks, Acorns, Climat	e, ·	۶ .				~ % ?
and squirrels	, 1-	6 1	1.50	Color and Change	, K-2	1.90
Nature Hunt	K (also Sp	oecia//Ed.)	1.00	Outdoor Fun for Students	J1-12	1.00

Sampling Button Population

The Rise and Fall of a

Yeast Community

Examining Your Environment Series. Holt, Rhinehart and Winston of Canada, Ltd. Published in U.S. by-Mine Publications, Inc., 1971, 25 Groveland Terrace, Minneapolis, Minn. 55403.

The Series:
Astronomy
Birds
The Dandelion
Ecology
Mapping Small Places
Mini-Climates

Pollution
Running Water
Small Creatures
Snow and Ice
Trees
Your Senses

The individual books are available in paperback form and are appropriate for Grades 5-10. They are easy to read, attractive, and emphasize observation and "hands-on" activities.

Teaching Activities in Environmental Education, Vol. 11, 1974, by John-H. Wheatley and Herbert L. Coon, ERIC/SMEAC; The Ohio State University, 400 Lincoln Tower, 1800 Cannon Dr., Columbus, Ohio 43210

Strand Aids. Packet from the National Park Service Copyright, 1972 by L. Allison, it includes 5 posters to color; 5 activity pages; 1 grand finale sheet to put it all together The style of writing is a little like Whole Earth.

Teaching Materials for Environmental Education.
Booklet, 69 pp illustrated. GPO stock No 0101-0234.
95 cents. A series of student-paced lesson plans which engage students in investigations of such topics as land use planning water, forest, and urban environments.

GAMES

3.9

1.00

1.00

Camp-a-rama. Game for 2-6 players or groups of players. Grades 3-6.

The players each receive a packet of equipment cards from which they select six and lay them face up in front of themselves. Players follow paths to campsite, encountering certain hazards identified or cards. On each hazard card, there are two or three courses of action from which players may choose Players may also choose to move as a team or individually.

The players receive points, the number depending on the order in which they arrive at the campsite. (First to arrive receives six, etc.) After all have arrived, players receive activity cards to distermine point value of remaining equipment. Largest point total wins

ORDER: Environmental Education Games; Division of Health, Physical and Conservation Education, Bureau of Academic and General Education. Pennsylvania, Dept. of Education, Box 911, Harrisburg, Pa. 17126

Ecology — Man and Nature. Multi-Level Vendors
 Urban Systems Consult the publisher's catalog in your IMC for a description.

Extinction — The Game of Ecology, Multi-Level Vendor Suraver Assoc Consult the publisher's catalog in your IMC for a description.

Life From Death — Ecology Kit 5. Multi Level Vendor Urban Systems Consult the publisher's catalog in your IMC for a description

Map-O-Rama. From 6 to 36 players (divided into 6 teams). Grades 5.7

All players receive 6 maps — population, natural resources, political, products, graphic rehef, and precipitation. The first member from Team 1 selects a question from stack of 36 cards (6 questions to each map) and must find the answer on his/her maps. If the answer is wrong, the first player from Team 2 gets a chance, and so on The child who answers correctly rolls the mil-o-cube to determine how many miles (from the East Coast to the West Coast) the team may move on a map of the U.S., traveling on a 6-lane highway. First team to reach the West Coast wins.

*Highway divided into 25 equal sections.

ORDER: Environmental Education Games, Division of Health, Physical & Conservation Education, Bureau of Academic and General Education, Pennsylvania Dept of Education, 86x(911, Harrisburg, Pa. 17126.

ERIC Full text Provided by ERIC

3

FILMS

Balance of Life and the Space Age. 1963 P.J. 14 min. color (MCPS F 2675)

Considers earth's living things in terms of their basic needs, pointing out that a community of intendependent plants and animals is called a "balanced system" Explains that astronauts depend for survival on a balanced system, which scientists are triging to set up inside space capsules

*Conservation: A Job for Young America. 1968 P 19 mm color (MCPS F-4514)

Discusses the increasingly adverse effects of technology on air, water, soil, and wildlife Stresses the growing need for society to control these by products of industry and preserve natural resources

Conservation for Beginners. 1967 P.I.J.S 11 mln color (MCPS F-4811)

Probes the importance of soil, plants, wildlife, and water Emphasizes the conservation of these natural resources

Earth: Man's Home. 1970. P (MCPS F-6049)
Explains that air, food, water, and certain temperature

Explains that air, food, water, and certain temperature ranges are essential to man's survival. Discusses reasons why some areas of the earth are more densely populated than others

Environment. 1971 J,S 29 min color (MCPS F 5297) Examines the causes of deterioration of our environment and probes what balances must be struck to preserve the environment and still maintain our technology and life style

Environmental Enrichment: What You Can Do About It. 1972. I.J.S. 21 min color (MCPS F 6082)
Details a step-by-step plan by which a single interested class in a school can mobilize the entire community to make significant contributions to their environment and to the quality of life in general

The House of Man: Our Changing Environment. 1964. P.J.J.S. 17 mm. color (MCPS F-4654)

Reveals the waste of resources in cities, woodlands, and farmlands; and pollution of river waters and of the air Compares "progress" achieved through wasteful methods and through conservation techniques

The Lorax. 1972 P 25 min color (MCPS F-5614)
An animated film based on the book of the same base by
Dr. Seuss Demonstrates the results of senseless the of natural resources.

National Parks: Our American Heritage. 1963

Discusses the work of the government agencies in establishing, administering, publicizing, and caring for

our national parks - Emphasizes the need for preserving and maintaining the parks and monuments

A Strand Breaks. 1959 J,S 15 min color (MCPS F-0586)

Traces the consequences of a state of imbalance in nature Explores the results of overgrazing and hunting, and emphasizes that man must manage his natural environment intelligently

The World Around Us. 1967 P.L.J.S 25 min color (MCPS F 4308)

An introduction to the science of ecology, showing environmental changes in the Chesapeake Bay

These films may be ordered from Association Films, 600 Grand Ave., Ridgefield, N J 07657 Phone (201) 943-8200. Rental. \$5.00

The Grand Canyon, 26 mm. An Island in Time: the Point Reyes Peninsula

(San Francisco, Calif.), 28 mm (Wilderness Alps of Stehekin: Northern Cas-*cades of Washington, 30 mm

Wasted Woods, 15 min Glen Canyon: Dam or Colorado River, 29 min Two Yosemites, 10 min

ORGANIZATIONS

Audubon Naturalist Society, 8940 Jones Mill Road, Chevy Chase, Md. 20015

Chevy Chase, Md. 20015

An outstanding organization devoted to ecological approach to environmental education Wide variety of programs offered include nature talks, guided nature walks, publications, etc. Most programs conducted at "Woodend" the beautiful 40 acre headquarters site

Teachers are encouraged to bnng classs to "Woodend" (up to 30 students) Staff at "Woodend" also visits schools

PUBLICATIONS

A World in Danger, by Roberta Hornig and James Welsh. The Evening Stappinc, Washington, D.C. A 20-page pamphlet containing seven news articles on threats to the environment. The articles appeared in The Washington Star, January 11-18, 1970.

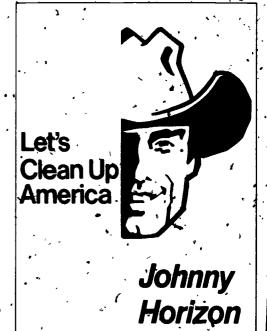
The New York Times, Washington Star-News, and the Washington Post also published collections of news articles on topical issues. Schools subscribing to these school news services can obtain class sets

Fun With the Environment, a primary grade comic coloring book, published by EPA

Part of the "President's Environmental Ment Awards

Program" (PEMAP) created to encourage and recognize student involvement Address requests to The President's Environment Ment Awards Program, EPA, 401 M St., SW., Washington, D.C. 20460

Johnny Horizon Program is, the Department of the Interior's, environment and conservation awareness campaign. It supplies materials, ideas, and programs to schools One of its publications. A Better Place To Be, is a 40-page booklet with more than 100 environmental projects and activities for elementary school children. There are projects on such subjects as ecosystems, energy conservation; solid waste disposal problems, and air, water, land, and noise pollution. Included are instructions for building ecosystems and using school grounds, vacant hots, and city parks for environmental education activities. For further information write to Johnny Horizon "77 Programs, U.S. Department of the Interior, Washington, D.C. 20240.





	OBSERVATIONS ON	i A POLLUTI	ON'WALK	
Ro	oute of Walk			•
		₹ '.3	•	
Da	ale	Time'		
w	eathēr Conditions	٠٠ ﴿		•.
	Environmental Problems	Observed	Not Observed	Comments
1	smoke from smokestacks, chimneys, burning trash	_		
2"	exhaust fumes from cars, buses, trucks		, ,	(
3	smog			
4	deteriorating paint on buildings and and cars			1
5	stained and soot-covered buildings			ŕ
6	dying plants and trees near street		1 3	•
7	people coughing		1	
8	people using insecticides	1	i	
9	eroded banks; hills, lawns			•
10	leaking pipes, fountains	 -	1 -	-
11		}	[,	41
12	trash in streets, alleys	1 ′		
13	abandoned cars	1.		
14	apen dumps	j	·]	
15.	rats, roaches, dead animals		- ;	*
16	unpleasant odors	` '		
17	oil spills .	· •		
18	junkyards	1		•
19	heavy traffic			
20	crowds	Ì		L]
21	nojsy autos trücks, buses	• •		` '
22.	noisy airplanes			l
23	noisy construction equipment			
24	ugly billboards and signs	'	·	
25	rundown buildings			
26	broken windows	1		
27	writing on walls			· · · · ·
28	crowds of people	1]	

A Better Place to Be. U.S. Government Printing Office, Washington, D.C. 20402, Stock #2400-00805, \$1.25 copy: An excellent buy

Our Environment. Cooperative Extension Service, Unit of Md., College Park, Md. Bulletin 247, 1973. (no copyright)

A booklet published by the University of Maryland Extension Service. Discusses water, air, solid wastes, population, and health and the environment. Could be used by junior and senior high school students

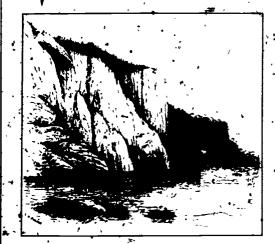
Outdoor Classrooms on School Sites, U.S. Dept. of Agriculture, Soil Conservation Service, Jap. 1972. 22

Includes plans and maps for creating outdoor classroom on the school grounds. Write: U.S. Government Printing Office, Washington, D.C. 20402, Number 0100-1458, 25

Places for Environmental Education, Educational Facilities Laboratories, 477 Medison Ave., New York 10822 Single copies free, multiple copies 254 Identifies types of facilities needed to improve environmental education (1971)

To Save the Earth. National Wildlife Federation, 1412
16th St., NW., Washington, D.C. 20036. 1971 15 pp
10t

A tool kit to measure our environmental quality index Helps teachers to set up kid-oriented environmental quality programs





29. other

BOOKS

Bonnett, Penelope, and Gill, Don. Nature in the Urban Landscape. Baltimore: York Press, 1973

FILMS

Rivers in the Sky. Bureau of Reclamation, Film Management Center, Building 67, Denver Federal Center, Denver, Colorado 80225.

This 28-minute film describes a weather modification research program designed to produce snow and rain for thirsty areas by artificial means Explains in simple graphic outline the importance and problems of the work (The borrower page for insurance and return postage Make requests two months in advance)

Be Yout Own Weatherman. (MCPSF-2676) 1962 P.J.

Pictures a young boy showing his friend his home weather station including some simple equipment Explains how weather maps are used to forecast the weather

Once Upon a Wilderness (MCPS F-5292) 1971 J.S. 19 mm, color

Dramatizes the contrast between the American wilder ness of a hundred years ago and the environment of today, showing the destructive technological effects of highways and housing developments.

Inquiry into the American Wild ands. (MCPS F 5299) 1970 J.S. 10 mm. color

Views various aspects of the American wilderness and asks questions which are intended to stimulate thinking about the past, present, and future value of the wilderness.

Open Up My Eyes. (MCPS E-6156) 1971 I J 10 min

Combines sound effects, still photography, and metion pictures of wild flowers and streams

SOIL

ACTIVITIES

From Environmental Discovery Series — "Soit" Each student studies his own plot to discover various soit factors that influence plant growth. (Grades 2-9)

BOOKS

Talley, Naomi. *To Save the Soil*. New York: Hale, 1965. Children's book Available in most Montgomery County Public Libraries.

Van Dersal, William Richard Land Renewed, The Story of Soil Conservation. New York Walck, 1968.

Available in most Montgomery County Public Libraries.

The Yearbook of Agriculture 1957. Soil. U.S. Dept of Agriculture

FILMS

Conserving Our Mineral Resources Today. (MCPS F-2927) 1966. J 11 mm color

Explains that the decreasing supply in irreplaceable materials like coal, oil, stone, and metals makes conservation a problem today. Suggests greater development of renewable resources such as waterpower and nuclear and solar energy.

Erosion — Leveling the Land. (MCPS F-4304) 1965 P.I.J.S 14 min color.

Examines the surface processes of weathering, erosion, and deposition.

Forest Conservation. (MCPS F-523) EBF, 1949 S. 10

Demonstrates how fire and the overcutting of timber have caused soil erosion. Discusses good conservation practices and remedial measures to be taken.

Mari Uses and Changes the Land. (MCPS F-4901) 1967. P.J.J.S. 11 min. color

Shows how man used the land as a source of food, clothing, shelter, and materials for industry. Explains how man can change the land by enriching poor soil and developing new uses for it.

Mud. (MCPS F-5959) 1968-T.J.S. 23 min color A study of urban erosion and sedimentation Explains how engineering skills and conservation practices often applied to rural areas can be used in cities to prevent. flooding and other dramage difficulties





Our Soil Resources: Formation and Conservation. (MCPS F-602) 1949 P.I.J.S 10 mm b&w

Explains how soil is formed by the physical and chemical disintegration of rock and by the decomposition of plant and animal matter. Points out the world's four soil groups and defines geographic limits of each in the U.S.

Soil: What It Is And What It Does. (MCPS F 2932)

Explains that different kinds of soil are mixtures of sand, clay, and humus, and tells how the weathering of rocks helps make soils

Succession — From Sand Dune to Foxest. (MCPS F-4296) 1960. S. 16 min color.

Illustrates the general principles of ecological succession by which an area slowly and continuously changes until it becomes a stable natural community

Understanding Our Earth: Soils (MCPS F 974) 1953
P.J. 11 min. color

Indicates the elements found in topsoil, subsoil, mantle rock, and bedrock, and explains the process of soil making.

ORGANIZATIONS

- 1 Bureau of Land Management, U.S. Department of the Interior, Washington, D.C. 20250
- 2 Soil Conservation Service, U.S. Department of Agriculture, Washington, D.C. 20250
- 3 Soil Conservation Society of America, 7515 NE. Ankeny Road, Ankeny, Jowa 50021

PUBLICATIONS

Better Environment.

Cartoon booklet series from the Soil Conservation Society of America Eight Booklets in the series include:

1) The Story of Land; 2) The Wonder of Water; 3) Help Keep Our Land Beautiful, 4) Making a Home for Wildlife on the Land, 5) Food and the Land; 6) Working Together for a Livable Land; 7) Plants — How They Improve Our Environment, 8) The Earth — Our Home in Space (See organization list for address)

Our American Land. GPO-0100-00656, 254

Booklet put out by Soil Conservation Service that presents "a historical dramatization of the need for scientific land management" and describes procedures in such a field Write Soil Conservation Service, Education and Publications Branch, U.S. "partment of Agriculture, Washington, D.C. 20250"

Maryland Soils. Extension Bulletin 212, prepared by Dr Fred P Miller Cooperative Extension Service, University of Maryland, College Park, Md. (May 1967, reprinted May 1975)

Soil Conservation at Home. US Department of Agriculture, Soil Conservation Service, Agriculture Information Bulletin 244 U.S. Government Printing Office — 30€

Tips for city and suburban dwellers

Sediment — It's Filling Harbors, Lakes, and Roadside Ditches. Soil Conservation Service. Education and Publications Branch, U.S. Department of Agriculture, Washington, D.C. 20250
In this booklet, the Soil Conservation Service makes it

Each generation has its own rendezvous with the land, for despite our fee titles and claims of ownership, we are all brief tenants on this planet By choice, or by default, we will carve out d land legacy for our heirs. We can misuse the land and diminish the Jusefulness of resources, or we can create a world in which physical affluence and affluence of the spirit go hand in hand.

Stewari Udall, The Quiet Crisis

clear that soil erosion is a problem affecting everyone — not just farmers. Discusses causes of and solutions to soil erosion. Ends by saying it is cheaper to prevent erosion than to clean up damage after it occurs.

Soil Erosion — The Work of Uncontrolled Water.
Soil Conservation Service, Education and Publications Branch, U.S. Department of Agriculture, Washington, D.C. 20250 GPO 0100-01550, 25¢

Analyzes the process of soil erosion by water in the three stages. Discusses land slope and soil characteristics in the U.S. in terms of their implications for soil erosion.

Soil Surveys Can Help You. U.S. Department of Agriculture, Office of Communications, Room 104 A, Washington, D.C. 20250 Foldout, GPO 0100-02909

TREES

ACTIVITIES

1 How to Make a Mini-Environment (terrarium) in the classroom Visits to parks and nature centers teach little about an important aspect of the natural environment that deals with variation, *ecological sucession, i.e., the influence of time Its important to be able to observe continually the "happenings" in the natural environment over a period of time

Two places offer guidelines on making terrariums. The U.S. Department of the Interior published "Miniature Environments — An Environmental Education Guidebook," Government Printing Office, #508-688, 1970, 254, and the Environmental Education Task Force (under the U.S. Department of the Interior), 4228 Wisconsin Ave. NW, Washington, D.C. 20242, publishes a "how to" leaflet on making and using a mini-environment. The National Wildlife Federation also published a series of articles dealing with methods of encouraging wildlife in your backyard. These articles tell how to make a larger mini-environment outdoors on which more people can enjoy. Reprints are available from the Eederation. It would make a terrific project for classes of all ages.

- 2 "Learn To Love Trees" a Starter Kit Contains a 25" x 35" color chart, a pamphlet of teaching suggestions, and a booklet of class projects. A four week tree curriculum. Write to the American Forest Institute, 1619 Massachusetts Avanue, NW, Washington, D. C. 20036.
- 3 From Environmental Discovery Series "Plant Puzzles," students exchange puzzles they've created and reconstruct them using branch structure and patterns (Grades 1-6)



Learn to Love Trees.



They Will Love You Back.

- 4 From Enurronmental Discovery Series "Plants in the Classroom;" students investigate interrelation ships of plants and environment (Grades 3-6).
- From Enuronmental Discovery Series Qaks, Acorns, Climate and Squirrels," activities are de signed to make students aware of interdependence in nature (Grades 1-6)
- 6 From Environmental Discovery Series "Nature Hunt," a trip to a local park to discover similarities and differences in the natural world (Grades K1 and Special Education)
- 7. Recucling Paper

Fill a mixing bowl ¼ full of water Place ½ page of a newspaper, torn into tiny pieces, in the bowl and let soak for at least 1 hour. After it becomes thoroughly soaked, beat it with an egg beater until broken into thers. The mix has been adequately beaten when it e creamy, texture of paper pulp. Dissolve 2

heaping Tablespoons of cornstarch in a pint of water Pour into pulp and stir. Dip a 4" x 4" piece of window screen flat repeatedly into the pulp unit a layer about, "thick has accumulated. Set the pulp-covered screen only newspaper and lay a plastic bag over it. Press down with a 2" x 3" wood block.—gently at first, then with more pressure. Allow to dry about 24, hours. Peel the fibers, how paper, from the screen."

From — Teaching Activities in Environmental Education by John H. Wheatley and Herbert L. Coon. ERIC/SMEAC, the Ohio State University, 400 Lincoln Tower, 1800 Cannon Br., Columbus, Ohio 43210

8 Trees From the Nation's History is a tree planting kith from the American Forestry Institute. It includes a blooklet entitled American Forest Heritage, which tells of, trees' importance in American history (as houses and other buildings, fences, conestoga wagons, boats, railroad ties, paper, etc.) Also includes, packets of seeds that students can plant (Eastern White Pine, Lobloggy Pine and Common Apple)

BOOKS

Cooper, Elizabeth K. A Tree is Something Wonderful. San Francisco, Children's, 1972.

A children's book, available in most Montgomery County
Public Libraries

Guilcher, Jean Michel, and Noailles, R. H. A Tree is Born. New York: Sterling Publishing Co., Inc., 1960

A children's book, available in most Montgomery County Public Libraries

Couchman, J. K., et al "Trees" from Examining Your Environment. Montreal: Holt, Rhinehart, and Win ston of Canada, Ltd., 1972

FILMS

Problems of Conservation: Forest and Range. (MCPS F-4664) 1969. J.S 14 min color

Shows how large areas in the U.S are used as productive forest and range land, and illustrates the multiple use programs of protection and management that lead to effective use of resources. Points out the problem of retaining large undeveloped areas while demands for food, lumber, and recreation are increasing.

Science Conserves the Forest. (MCPS F-4270) 1965 / P.J. 15 min color In national forests, the forest rangers bring together many skills relating to science and management in research and work

Temperature Deciduous Forest. (MCPS F 2658)
1961 J.S. 17 min color

Shows the seasons in the temperature deciduous forest. Pictures typical plants and animals in their natural environment, discussing their interrelationships

The Tree on the Road to Turntown. (MCPS F 2559)
. 1962 P 7 min color

Story of a mighty oak tree, from its beginning as an acorn dropped by a finghtened squirrel to its final use as lumber. Shows some of the relationships among trees, animals, and man

The Tropical Rain Forest (MCPS F 2659) 1962 J.Ş. 17 min color

Defines the tropical rain forest and shows the principal characteristics and locations. Presents the way various forms of plant and animal life adapt and live together.





Why Plants Grow Where They Do. (MCPS F-4349) 7- 1966. P 11 min color

Pictures an open field, a woodland, a desert, and a pond, and explains why certain plants grow in each area. Shows each type of plant community set up in a glass vivanum

Wikiflowers.(MCPS F-5498) 1972; P, İ 11 min color Shows several kinds of wildflowers blooming in various locations and seasons, and explains that each wildflower is suited in some way to life in a particular place

GUIDES AND CATALOGS

Film Catalog, 1972-73. State University of New York. College of Environmental Science and Forestry, Syracuse, NY, 13210

Free Loan Forest Films — 16 mm sound-color, choice of 10

Send for catalog description sheet Modern Talking Picture Service, 2323 N. Hyde Park Road, New Hyde Park., N Y 11040.

Reference American Forest Institute



GAMES

Forest Adventure. (For Grades 4-8) for 9 players or 5 groups of players

One of the five forest regions of the U.S is assigned to each player. Each has a seedling which players must move up the trail leading to their region (Moves are

determined by spinning disks) Once they reach the region, the players spin a second disk to determine whether their seedling becomes a full grown tree If it does, the player spins a third disk in an attempt to recognize a commercial use for a tree. The first player to recognize two commercial uses wins

For a more complete description, see Environmental Education Games, Division of Health, Physical, and Environmental Education, Bureau of Academic and General Education, Pennsylvania Department-of Educa tion, Box 911, Harrisburg, Pennsylvania 17126

Redwood Controversy. Houghton Mifflin. Mr. (Consult the publisher's catalog for a de-

Why Are Leave's Green? Ecology Systems, Multi-level

(Consult the publisher's catalog for a description)

NEWSLETTERS

"Environmental Vistas," Forest Service

"The Green Scene," National Capital Parks...

"The Nature Conservancy News," Nature Conservancy

ORGANIZATIONS*

The Wilderness Soopety Amencan Forest Institute

PERIÓDICALS*

American Forestry Association.

PUBLICATIONS

Plant a Tree. Educational Media and Technology, Departments of Curriculum and Instruction, and Environmental Education Division, Montgomery County Public Schools, 850 Hungerford Drive, Rockville, Maryland 20850

A resource guide for the study of trees and plants

*Refer to sections under these headings for addresses

SPOTLIGHT

American Forest Institute

The American Forest Institute is an organization supported by the forest products industry. Its purpose is to inform and educate the public on forestry and land management issues. It sponsors the Tree Farm System, which encourages small fundaments to follow the good management practices that will involve a continuous supply of bod for the public use, Publications of AFI

Green America, a quarterly publication. Forests USA, a report on size and status of

American forests,

Recycling Questions and Answers, a look a the paper industry's effort to make bes possible use of resource.

The American Tree Form System, an introduction to the American Tree Farm System for

woodlot owners.

For more information, write: Américan Forest Institute, 1619 Massachusetts Avenue, NW. Washington, D.C. 20036.

WITDI IFF

ACTIVITIES

1 From Environmental-Discovery Series - "Brine Shrimp and Their Habitat " (Grades 15)

Students experiment with conditions for hatching shrimp, and become aware of effects of environmental variables on the life cycle

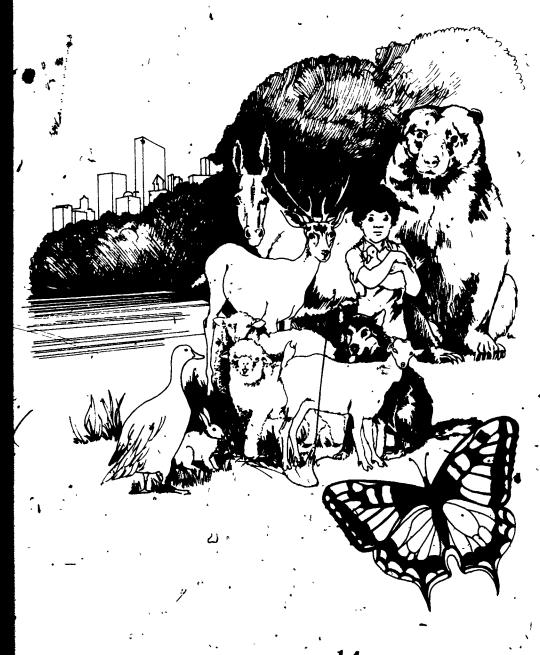
2 From Environmental Discovery Series - "Fish and Water Temperature" (Grades 49)

Children investigate how surroundings affect metabolism of fish and humans

3 From Teaching Activities in Environmental Educa tion, bý John H Wheatley and Herbert L Coon "Insect Cages" (Grades K-6)

Roll a 4" x 12" piece of screen into a cylinder Fill a plastic coffee canlid with a thick mix of plaster of paris, and set one end of the cylinder in it, let it harden. This forms the bottom of the cage. Cover the top of the cage with the second coffee can lid and fasten it on one side with wire on string to form a hinge





 From Teaching Activities in Environmental Eduçation, by John H. Wheatley and Herbert L. Coon — "Spiders' Webs" (Grades K-6)

pocate a spider web which is out in the open and can be approached from both sides. Spray the web with paper so that it is completely covered. Before paint dries, carefully press the paper onto the web. The paint will cause the web to stick to the paper. Can be used for decorations and to study how spiders make their webs.

National Wildlife Federation's "We Care About
 Wildlife" Kit Packet sent to teachers from NWF once a a
 year for National Wildlife Week during March Kits
 generally include a large, color poster expressing
 theme of the year, a reprint from NWF magazine on
 building mini-habitat (good activity for school grounds
 — all ages); and a teacher idea book with games,
 puzzles, and even a few serious learning activities.

BOOKS

Couchman, J. Kenneth, et al. "Small Creatures," from Examining Your Environment. Montreal Holt, Rhinehart, and Winston of Canada, Ltd., 1974

Cousteau, J. Y The Silent World. New York. Pocket Books, 1955.

Crowe, Philip Kingsland World Wildlife — The Last Stand. New York: Scribner, 1970

Includes a foreword by H.R.H. Prince Bernhard of the Netherlands. The author reports on his travels as a director of the World Wildlife Fund to some of the world's most populated areas — Ceylon, Sikkim, Bhutan, Central America, Mexico, and southern Africa. In these places he observed the condition of rare and endangered species of wildlife and helped to develop interest in thie preservation

Curry-Lindahl, Kai. Let Them Live — A Worldwide Survey of Animals Threatened with Extinction. New York: Morrow, 1972.

Ehrenfeld, David W. Conserving Life on Earth. New York. Oxford, 1972. (Onginally published as Conservation.)

Available in most Montgomery County Public/Libraries

Farb, Peter, and the editors of Life. The Land & Wildlife of North America. New York: Time, Inc., 1966.

An account "of the mammals and birds that were the original endowment of the country, of the history of how some have vanished and ... of the efforts being made to preserve the vestiges of American wilderness that remain." (p. 16)

Fisher, James, et al Wildlife..in Danger. New York Viking, 1969

Based on facts collected by members and correspondents of Survival Service Commission of International Union for Conservation of Nature and Natural Resources Available in most Montgomery County Public Libraries

Fitter, Richard Vanishing Wild Animals of the World New York Franklin Watts, 1969
With 43 paintings by John Leigh-Pemberton, and a foreword by HRH the Duke of Edinburgh, this book describes the work of wildlife conservation organizations. Also lists species that are extinct or on the endangered

MacBean, John C, et al "Birds" from Examining Your Environment. Minneapolis, Minnesota. Mine Publications, Inc., 1971

Olsen, John Edward Staughter the Animals — Poison the Earth. New York Manner Books, 1974 Available in most Montgomery County Public Libraries

Trippensee, R E Wildlife Management — Upland Game and General Principles. New York McGraw-Hill, 1948

FILMS

Animal Habitats. (MCPS F-1105) 1955 I,J 11-min Illustrates specific adaptations of animals to the varying conditions of life demanded by desert, forest, prairie, and arctic tundra

Animal Homes. (MCPS F-0808) 1954 P 11 min Depicts the homes of various animals and shows that in each case the animal uses it to raise-his young and tostore food and for safety and shelter



animals are protected. There are laws to protect others.

The Aquaritm: Classroom Science. (MCPS F 5086) 1967 P.I.J.S 12 min color

Shows that one can raise aquatic plants and animals by duplicating in an aquarium their natural conditions

Big Land Animals of North America. (MCPS F 1016)

Depicts the larger animals of North America in their native habitat

The Changing Forest: A First Film. (MCPS F 5489) 1970 P.I 11 min color .

Describes how trees and birds, insects, and other animals adjust to the changing seasons in the forest

Common Animals of the Woods. (MCPS F 0963) 1943 P.J 11 min b&w

Studies various common animals in the natural habitat Pictures such animals as the squirrel, rabbit, raccoon, porcupine, otter, mink, and beaver

Conserving Our Wildlife Today. (MCPS F-5025) 1968 P.I.J.S 11 mm. color

Explains the importance and usefulness of wildlife, and describes methods used by government agencies, private societies, and individuals for wildlife conservation

The Creek. (MCPS F-5220) J.H 26 min
An ecology film that shows in detail the physical structure
and the life forms of the complex creek community
Depicts the social action involved in a community
working together to preserve and reclaim its creek

The Desert Community. (MCPS F 4410) 1965 P.J 12

A study of living things in the desert to discover their adaptations to accommodate the extremes of temperature and dryness.

Desert Dwellers: Plants and Animals. (MCPS F-4369) 1967 J.S 21 min color

A study of desert ecology which shows how desert plants and animals adapt to their environment. Describes the living habits of the gila monster, ring tailed cat, mule, deer, desert birds, snakes, and other animals

Ecology of the Desert. (MCPS F-4518) 1967 J,S 16

Points out The location of the world's major deserts Discusses limiting factors and illustrates adaptations of plants and animals that inhabit these arid regions

Ecology of the Grassland. (MCPS F 4506) 1967 J.S

Points out the location of the world's major grasslands Discusses limiting factors, and illustrates adaptations of plants and animals that inhabit these semi-and regions Lakes: Aging and Pollution. (MCPS F-6107) 1971 J,S 15 mm color

Examines the organisms that inhabit lakes Explains the aging process of lakes and emphasizes man's role in speeding and aging process

Life in the Desert. (MCPSF 757) 1954 P.I.J.S 11 min Shows plant and animal life of the desert lands of our West Shows that, despite outward appearances, the desert is really teeming with life

Marine Ecology (MCPS F.2425) 1961 S 30 min b&w Points out some limiting factors that, influence distribution of plants and animals in the ocean

Nature in the City. (MCPS F-6071) 1971 P.I. 13 min . color

Shows how small animals such as pigeons, house mice, spiders, and ants develop and adapt to their environment in the city. Points out that the interrelation of city trees, plants, and flowers with these animals forms an important part of the ecology of the city.

Nature's Half Acre (MCPS F 948) 1953 P.I.J.S. 33 min color

Depicts the continuity of life in birds, plants, and insects through the four seasons. Shows the dramatic interdependence of one life upon another and nature's master plan providing food for all

One Day at Teton Marsh. MCPS F-4670) 1966 P,I,J,S 48 min color

Follows the activities of otters during one day in Teton Marsh, showing views of the scenery and of the animals and birds

The Physical Environment. (MCPS F-4295) 1963 P 11 min color

Illustrates some of the ways in which organisms adapt to their environment. Offers examples of specific adaptations by organisms to particular physical factors in their environments.

Plant and Animal Distribution. (MCPS F 2422) S 30

Describes role of ecologist, defines population community and ecosystem, and discusses plant and animal distribution in regions with favorable survival conditions

Plant-Animal Communities: Ecological Succession. (MCPS F-4824) 1967 J,S 14 min color a Illustrates that ecological succession follows a predictable pattern, and the succession is controlled to a major extent by climate and landform, but it may also be accelerated, interrupted, and retarded by man

The Sea. (MCPS F-4284) 1962 J,S 26 min color. Illustrates the interrelationships between living things in the sea



1:

Seashore Life. (MCPS F-286) 1950 K.P. 11 min color Shows life on three kinds of seashore—sandy beach, rocky beach, and mud flats. Shows how seashore animals adapt to their environment.

Spring Comes to the Pond. (MCPS F-5810) 1970 I 11-

Shows the changes which occur to a pond and its surroundings as spring approaches includes scenes of plants and animals, of ice melting approaches includes scenes of plants and animals, of ice melting, rains, insects appearing, and birds returning.

Still Waters. (MCPS-F.5972)(1964 J.S. 14 min color A story of birth, survival, and death in a Florida lake follows fish in the lake as they feed, breed, and fight fishermen and predators

The Strands Grow. (MCPS F-0585) 1950 J,S. 15 min color .~

Uses fossil remains to illustrate how changes in the environment may cause some animals and plants to die out and others to develop. Shows the growth of the climax forest to emphasize the significance of a state of balance.

A Time for Rain. (MCPS F-6010) 1971 P,I 6 min color Shows effects of the sun on plants, animals, and a variety of materials

The Tropical Rain Forest. (MCPS F-2659) 1962 J S 17 mm color.

Defines the tropical rain forest and shows the principal characteristics and locations. Presents the way various forms of plant and animal life adapt and live together



's think friedy is due for a transfer."

GAMES

Spec — Cat. (Specimens — Categories) This game was designed for 9th graders, but is adaptable to other levels. For teams of 4

Teacher must first survey a given area to see which specimens are available. Using this information, the teacher makes up a bingo type card with the difficult specimens on the diagonal lines and the rarest in the center. The four teams are each given a card, and they must find as many specimens as possible within a given time limit. They receive so many points for the squares oovered. Highest score wins

From Environmental Education Games, Department of Health, Physic al, and Conservation Education, Bureau of Academic and General Education, Pennsylvania Department of Education, Box 911, Harrisburg, Pennsylvania 17126

NEWSLETTERS

"Conservation News," National Wildlife Federation

"Conservation Report" National Wildlife Federation .

Defenders of Wildlife News," Defenders of Wildlife

"The Living Wilderness," Wilderness Society

"Outdoor New's Report," Wildlife Management Institute

 Ranger Rick's Nature Magazine, National Wildlife Federation

"Watch It." Wilderness Watch

"Wilderness Report." Wilderness Society

QRGANIZATIONS

- Defenders of Wildlife.

· Izaak Walton League of America

National Audubon Society

National Wildlife Federation

Wilderness Society

« Wildlife Management Institute, %

SPOTLIGHT

National Wildlife Federation

Established in 1936, the National Wildlife Federation is one of the oldest environmental organizations in the United States. Its overall aim is to "... work for solutions to problems confronting man, wildlife, and the environment." To attain its goals, the Federation relies primarily on educating

the public. Some of its publications include: The International Wildlife Magazine. National Wildlife Magazine. Ranger Rick's Nature Magazine.

Conservation News. Conservation Report. Conservation Directory.

In addition, the Federation prints around 20 peophiles that are available at an inexpensive cost after the first copy. NWF also publishes books on various topics having to do with the environment in

The Federation welcomes school groups that with to visit its site at 8925 Leesburg Pike near Tyson's Corner, Virginia. There is a nature trail on the grounds — well worth the time it takes to walk it... The Contor will convide a naturalist to lead the

grounds — well worth the time it takes to wak it.
The Center will provide a naturalist to lead the
group; or teachers can lead the student in the
"wilderness" themselves.
A general orientation room is open where students

can see films, a mini-environment, a pictoral representation of milestones in environmental history, and an actual beshive in the making. Also in the building is a shop with many-publications and many articles sold by NWF (stationery, jewelry, T-shirts, bird-feeders, games, Eco-kits, etc.). Catalogs of these articles are available.

PERIODICALS.

Audubon. (Audubon Society)

If you've never read the magazine Audubon, you've missed what many consider the most beautiful nature magazine in the world. It is the publication of the National Audubon Society, an organization that was struggling to save the environment before most present day environmental organizations were born. The Society sponsors wildlife sancturies, workshops, lectures on wildlife, court battles to save the environment, and so much more Membership fees are \$7,00 for students. \$15.00 for teachers. Send checks to National Audubon Society, 950. Third Avenue, New York, N.Y. 10022. The subject of



environmental éducation is usually thought in terms of pollution problems and their solutions and nature studies, but anyone who has hiked along a lonely beach or strolled through a fragrant woods in the autumn is aware that such activities should also be included under the broad category of environmental education. Camping, hiking, backpacking, canoeing, and all other forms of outdoor recreation provide a combination of learning and fun unqualled for the student in any other division of environmental studies. By utilizing the environment around you for just plain fun, learning is bound to follow if by some highly remote chance learning doesn't follow, be satisfied with the fun!

International Wildlife, (National Wildlife Society)
National Wildlife. (National Wildlife Society)

PUBLICATIONS.

Wildlife Notes. Four series of papers on endangered wildlife, birdwatching, amazing facts, etc., published by the National Wildlife Federation. Each first set is free Additional sets are 25¢ each

Below is a copy of the order form for further publications of the National Wildlife Federation.



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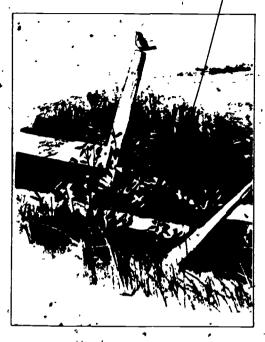
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Teachers, organizations and clubs are requested to place one order for quantity amounts of publications A 20% discount may be granded on orders of 50 or more each for most of the publications Purchaser is expected to pay shipping costs. The project or purpose for which the material is being ordered should be described briefly.

Sond order and payment to
EDUCATIONAL SERVICING SECTION, NATIONAL WILDLIFE FEDERATION
1412 SIXTEENTH STREET, N W., WASHINGTON, D.C. 20036





The subject of environmental education is usually thought in terms of pollution problems and their solutions and nature studies, but anyone who has hiked along a lonely beach or strolled through a fragrant woods in the autumn is aware that such activities should also be included under the broad category of environmental education. Camping, hiking, backpacking, canoeing, and all other forms of outdoor recreation provide a combination of learning and fun tinequalled for the student in any other division of environmental studies. By utilizing the environment around you for just plain fun, learning is bound to follow. If by some highly ernote chance learning doesn't follow, be satisfied with the fun'

BOOKS

Anger, Bradford, Home in Your Pack: The Modern Handbook of Back Packing New York MacMil Ion, 1972

Casewit, Curtis W Hiking-Climbing Hamiltook, New York Hawthorn Books, 1969

Cheney, Theodore A Camping by Backpack and Canoe New York Funk and Wagnalls, 1970

Colwell, Robert Introduction to Foot Frails in America Harrisburg, Pa Stackpole, 1972

Elman, Robert Hiker's Bible. Garden City, NY Doubleday, 1973

Fisher, Ronald M Appalachian Trail. Washington National Georgraphic Society, 1972

Graves, Richard Bushcraft: A Serious Guide to Survival and Camping. Schocken, 1972

Petzoldt, Paul *The Wilderness Handbook*. New York W. W. Norton & Co., Inc., 1974

Deals with wilderness survival, camping, mountaineer ing, and National Outdoor Leadership School

Rutstrum, Calvin North American Canoe Country New York Macmillion, 1965

Van Matre, Steve Acclimatization. Bradford Woods, Martinsville, Ind American Camping Association, 1972

A sensory and conceptual appraoch to ecological involvement "

Van Matre, Steve. Acclimatizing. Bradford Woods, Martinsville, Ind. American Camping Association, 1974

'Sequel to above' book, a personal and reflective approach to a natural relationship"



MAP AND TRAIL GUIDE

Potomac Appalachian Trail.Club, Inc. Washington, D.C., Guide to the Appalachian Trail and Side Trails in the Shenandoah National Park. The Club, 1970.

FILMS

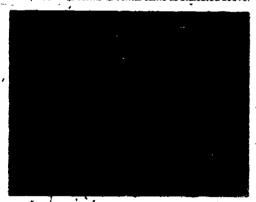
The American Island. 28 1/2 minutes.

Among America's finest recreational resources are her islands, many of them near major-cities. Examples are shown, and planning is urged to assure preservation against improper development. Order. Bureau of Outdoor Recreation, Radio-Television Liason Officer, Washington, D. Ø. 20240

Borrower pays for insurance and return postage Make requests two months in advance.

The American Trail. 28 minutes.

Colorful depiction of how various kinds of trails are part of our national heritage — from concrete city canyons and parks to ski itrails; bicycle trails along a river levee, trails for a canyon hiking, backpacking or strolling along a lonely seashore. Order: Bureau of Gutdoor Recreation — address and terms of rental same as indicated above.



PERIODICALS

Wilderheit, Camping. Level — Ga, Ac, HS/Issue B,M Available in School and/or public libraries

Backpacker. Available through subscription Refer to periodicals list for further information and addresses.

NEWSLETTERS

"Mother Earth News"
"Sierra Club Bulletin"

ORGANIZATIONS

Appalachian Trail Conference

Association for Environmental and Outdoor Education
Sierra Club





19

BOOKS

These books are available in Montgomery County Public Libraries:

American Association for the Advancement of Science Dallas, 1968. Global Effects of Environmental Pollution: A' Symposium. New York. Reidel Publications, 1970.

Annual Report of the President's Council of Environmental Quality. Published every December The report can be purchased at the Government Printing Office, stock number 4000-00327

These are annual reports which contain articles dealing with the quality of the environment during the preceding year. These reports usually have excellent illustrations

Commoner, Barry. Closing Circle: Nan, Nature, and Technology/ New York: Alfred A. Knopl, 1973

Fortune Magazine Editors. Environment: A National Mission for the Seventies. New York: Harper Row, 1970

Hyde, Margaret Oldroyd. For Pollution Fighters Only.
New York. McGraw, 1971

Longgood, Wilham Frank Darkening Land. New York Simon & Schuster, 1972

Perry, John. Our Polluted Works Can Man Survive? New York. Franklin Watts:

Strobbe, Maurice A (comp.). Understanding Environmental Pollution. St. Could Mesby: 1971

These books are not available in Montgomery County Public Libraries.

Talbot, Allan R. Power Along the Hudson: The Storm King Case and the Birth of Environmentalism. New York E.P. Dutton & Co., Inc., 1972. \$7.95

A report on the 1965 fight between Consolidated Edison and, he environmentalist coalition that wanted to block construction of a hydroelectric plant on Storm King Mountain.

Wallick, Franklin The American Worker: An Endangered Species. New York. Ballantine, 1972.
Reveals the workplace environment where pollution "frequently exceeds the pollution, which befouls our cities."

FILMS

No Deposit — No Return. (MCPS F-6081) 1971 J,S. 10 mm color.

Edward Morgan, Buffy Samte Mane, Mark Van Doren, and Kim Hunter portray their conceptions of America and discuss the way of life and future prospects for the country. Scenes of natural splendor in the country are juxtaposed with scenes of our defilement of the environment

Time of Man. (MCPS F-4831) 1970. J,S 50 min color Explains how civilization and our technological progress are polluting the natural environment which is essential for the survival of living beings. Shows many species which have disappeared.

Valley of Darkness. 1970-Rental: \$10

This 18-minute color film is an honest, simple, and profoundly disturbing demonstration of the destruction wreaked upon the people and fund of Appalachia by coal mining. More than just a day in the life of a miner, through revealing interviews of miners and industry spokesmen it fells of black lung disease, hearing loss, and heart ailments that turn miners old and feeble in their 40's and leaves. Order: NBC Educational Enterprises, 30 Rockefeller Plaza, New York, NY, 10020.

GAMES AND KITS

filmstrips, Ward's Natural Science, Catalogue Number 70 W 3800

Pollution. (Game) 10th-12th grade level, Carolina Biological, Catalogue number 45-1416.

Pollution. (Packet) Exotech Systems, Inc

Pollution. (Game) Multi-level, Houghton-Mifflin Consult your librarian for publishers datalogues that describe the above games

Re-Con. (Game) Whole class may participate. Citizens of a depressed mining community must decide between two industries for their town—one that will help employment and use coal but withpollute the air and river, and one that will employ only half as many workers and runs on electricity but will not pollute the environment. Students are assigned roles, and, as the character assigned, must vote for the company he/she thinks that character would support. From: Environmental Educational Games, Division of Health, Physical and Conservation Education, Pennsylvania Oepartment of Education, Box 911, Harrisburg, Pennsylvania 17126

NEWSLETTERS

"The Best Economically and Technologically Feasible Newsletter," Minnesota Pollution Control Agency

"Catalyst for Environment Quality"

"Earth, I Care Newsletter," Earth Awareness Foundation

"Environment Facts," U.S. Environmental Protection Agency

"Environment News," U.S. Environmental Protection Agency

"EPA Citizens' Bulletin," U.S. Environmental Protection Agency

"Environment Reporter," Bureau of National Affairs, Inc.

"Environment Action Bulletin"

"Sterra Club Bulletin," Sterra Club

"World Environment Newsletter," International Institute for Environmental Affairs

ORGANIZATIONS

Central Atlantic Environment Service

Crusade for a Cleaner Environment

Environmental Action

Environmental Defense Fund

Environmental Education Planning Committee for the District of Columbia

International Association for Pollution Control

League of Women Voters of the U.S.

Public Interest Research Group (Ralph Nader's Group)

PERIODICALS

Periodicals dealing with POLLUTION are included in the individual subcatagories; e.g., air pollution, water pollution, solid waste, etc

PUBLICATIONS

Action for Environmental Quality — Standards and Enforcement for Air and Water Pollution Control. This 24-page EPA booklet can be purchased at the Government Printing Office, GPO stock #5500-00087 Price 904.

Clean Air and Water. A 13-page pamphlet published by the Getty Oil Company.

It describes the air and water pollution controls instituted by the Getty Company at its Delaware Refinery Write Getty Oil Company (Eastern Operations), Inc., Delaware Refinery, New Castle County, Delaware.

Environment Pocket. Pamphlet #426, price \$2.00. 6 publications flow our rivers, air, and estuaries have become so polluted and why our solid wastes keep accumulating. League of Women Voters of the U.S., 1730 M Street, NW., Washington, D.C. 20036

Your World, My World. 1973, Stock #5500-00079, price \$1.50.

This 48-page EPA booklet is a colorful and interesting general treatment of pollution: air, water, waste, noise, chemical, and radiation. Suitable for Grades 7-9 Order: Government Printing Office

AIR

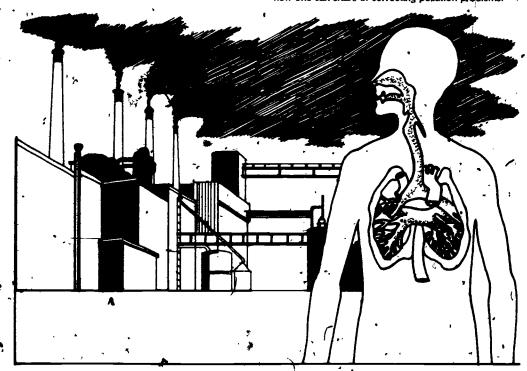
BOOKS

Aylesworth, Thomas G This Vital Air, This Vital Water: Man's Environmental Crisis. Chicago: Rand McNally, rev. ed. 1974
Brief chapters on such topics as "Solids in the Air,"

"Smokestacks and Automobiles," "Filth in the Sea,"
"Sewage Pollution," and "Paying for Pure Water,"
"Sewage Pollution," and "Paying for Pure Water,"

FILMS

Air Pollution: A First Film. MCPS F-5497.
Shows how everyone is responsible for air pollution, and how one can share in correcting pollution problems.



Problems of Conservation: Air. 1968 — Rental \$8 A 15-minuté color film that presents a depressing picture of belching factory smokestacks and auto expressways. The film was made before the EPA's recent air pollution abatement programs were begun. Order: Encyclopaedia Britannica Educational Corp., 425 N. Michigan Avenue, Chicago, Illinois 60611.

Something in the Air. 1972 — Rental free loan. This color, 28-minute film holds the internal combustion engine responsible for the largest part of air pollution Order: Modern Talking Picture Service, Inc. 2323 New Hyde Park Road, New Hyde Park, N.Y. 11040

Runaround. 1969 - Rental free loan
A color, animated, 17 minute film in which the hero
confronts major polluters in a vain attempt to solve air
pollution. Order: National Tuberculosis and Respiratory
Disease Association, 1740 Broadway, New York, N.Y.
10019

GAMES' AND KITS

Tame — Air Pollution. Urban Systems, Inc. Designed for "multi-level" play. For a description of the game, ask your librarian for the publisher's catalog

Smog Game. 7-9 grade levels, Carolina Biological, 45-1418

For a description of "Smog Game," consult your librarian for the publisher's catalog.

Smog. Houghton Mifflin, Multi-level For a description of this game, see your librarian for the publisher's catalog.

Kit — Air and Water Pollution. Scott Education Division. Price \$45.00.

This kit contains a transparency, 2 filmstrips, and a cassette tape. For description ask your librarian for a publisher's catalog.

Kit. Air Pollution. Schloat Products (For Grades 7-9). For a description of this filmstrip-cassette kit, ask your librarian for the publisher's catalogue.

NEWSLETTERS

'Air Pollution Notes," Rutgers University

"Newsletter," Metropolitan Washington Coalition for Clear Air, Inc.



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ORGANIZATIONS

Air Pollution Control Association

Citizens for Clean Air

National Council of the Paper Industry for Air and Stream Improvement

(See General Organization list for more information.)

PERIODICALS

Clean Air. National Society for Clean Air. Refer to Periodicals list for more information.

PUBLICATIONS

Clean Air and Your Car. A 24-page booklet from EPA. Write: Environmental Protection Agency, Public Information Center (Pm-215), Eaterside Mall, 401 M Street, SW., Washington, D.C. 20460:

Testing for Air Pollution. Science Study Aid No. 5, Classroom activity aid pamphlet, U.S. Department of Agriculture, Educational Services Branch, Agricultural Research Center, Beltsville, Maryland 20705.

WATER

ACTIVITIES

- From National Wildlife Federation, Environmental Discovery Units: "Snow & Ice." Children conduct investigations to learn characteristics and qualities of snow and ice. (Grades 1-6).
- 2. From National Wildlife Federation, Environmental Discovery Units: "Stream Profiles." Students study a stream and draw correlations between its elevations and organisms and the conditions at those elevations (Grades 4-9)

INSTRUCTIONAL MATERIAL'S

Environmental Resource Papers in the "Investigating (Your Environment" Program, Book 8. Menlo Park, Ca.: Addison-Wesley Publishing Company, 1975



BOOKS

The Yearbook of Agriculture, 1955. Water U.S. Department of Agriculture. o.p.

CURRICULA

"A Curnculum Activities Guide to Water Quality
Equipment and Environmental Studies" ERIC
#ED 080361 (See section on curriculum guides.)

"Water Quality Control." ERIC #ED 079100 (See section on curriculum guides.)

FILMS

underwater exploration.

Conquering the Sea. (MCPS F-4489) J.S. 25 mm color. Discusses man's growing interest in the ocean as a source of food and raw materials, and shows the new techniques that are being developed to permit such

Ecology of Fresh Water. (MCPS F 4508) 1967 J.S 16

A discussion of fresh-water ecology Illustrates some of the characteristics pertaining to the formation, the zonation, stratification and classification of lakes. Explains phyto-plankton blooms and limiting factors in lakes.

The Gifts. 1972 — Rental free loan.
This 28-minute color film was made by the Federal Water Quality Administration, which was merged into the EPA in 1970. It is an excellent portrayal of how America has abused the gift of water. Film was nominated for an Academy Award. Order! Modern. Talking Picture Service. Inc., 2323 New Hyde Park Road, New Hyde Park, N.Y. 11040.

Life Along the Waterways. (MCPS F-370) 1952. P.I. 11

min. color.

Shows the variety of environmental conditions in a changing waterway. Includes scenes of animal and plant life found in streams, ponds, rivers, and marshes.

Man's Problem. (MCPS F-583) 1953. J.S. 18 min color. Demonstrates our dependence on an adequate supply of water. Describes our growing water shortage and outlines steps to be followed in making water available for our increasing population and expanding industry.

Oil Spoil! 1972 — Rental: free loan.

This 17-minute color Sierra Club film deals with automobile-related pollution and particularly with the spoiling of coastlines. The 1969 oil spill at Santa Barbara

highlights the film. Order: Association-Sterling Films, 866 3rd Avenue, New York, N.Y. 10022.

The Pend and the City. (MCPS F-4266) 1965. P.J. 16

Creates awareness that our resources are not unlimited and focuses attention on the need to overcome these problems in our society today. Suggests conservation as the answer to the problems of resource waste.

The Problem with Water is People. (MCPS F-4521): 1964. J.S. 30 mm. color.

Examines the crisis in the nation's most vital natural resource — water Follows the course of the Colorado River from the Rockies to Baja, California and points out the uses and abuses of the water supply.

Problems of Conservation: Water. (MCPS F-4660) 1969 J.S. 16 min. color.

Describes communities and localities which have water supply problems, and shows the pollution of the Great Lakes.

Renaissance of a River. (MCPS*F-4783) 1965 S. 20 min. color

A documentary film about the Susquehanna River basin, showing its problems and its promise. Includes a discussion of the Interstate Federal Water Resources Compact for the Susquehanna.

Restless Sea. (MCPS F-2186) 1964. P.I.J.S 59 min. color.

A study of various aspects of the sea, waves and tides, marine life, the nature of the ocean bottom, and an analysis of sea water.

The River: A First Film. (MCPS F-5113) 1969 P.I.J 10

Describes how overs are formed and how they are used by cities along their banks.

Water for All Living Things. (MCPS F-4104) 1967 P.9 min. color

Discusses sources of fresh water, methods of transportation, and storage of water and new scientific experiments that will add to our future water supply.

Water Resources Development. (MCPS F-4371) 1968. I.J. 14 min

Geographical features of Colorado River, water resource for southwest U.S. and dams as sources of electric power and irrigation.

The Water Says. (MCPSF-5540) 1071. P. 11 min. color. Presents the sights and sounds of cascades and still water to help understand and discover nature

Wild River. (MCPS F-4307) 1965 P. 14 min., color Depicts the beauty of wild river regions. Explains the value of rivers for recreation, as havens for wildlife, and as water supplies for towns.

The Year of Disaster. 1971 — Rental: free loan This 28-minute color film examines the water resources of seven American cities that have at one time come precanously close to a "year of disaster" — when either too much or too little water has threatened to destroy the city. The message is that careful planning and user can prevent drought or flood. Order: Modern Talking Picture Service, Inc., 2323 New Hyde Park, Road, New Hyde Park, N.Y. 18040.

GAMES

Dirty Water, the Pollution Game. For 2-4 players, ages 12-adult

Each player (called a Commissioner of Water Pollution) starts with his/her own lake and \$100. The object of the game is to be the first player to stock a lake but at the same time control water pollution. Acquaints students with the problems faced by administrators in controlling water pollution. Urban Systems, Inc., 1970, 1033. Massachussets. Avenue, Cambridge, Massachussets 02138.

Life in the Water: Ecology Kit 2. Vendor Urban Systems. Multi-level. Ask your librarian for a publisher's catalog.

NEWSLETTERS

"Highlights," Water Pollution Control Federation

"Institute for Research on Land and Water Resources Newsletter." Pennsylvannia State University

"Potomac Basin Reporter," Interstate Commission on the Potomac River Basin

"The Chesapeake Bay Foundation," The Chesapeake Bay Foundation, Inc

For more information see the Newsletter secitor.

ORGANIZATIONS

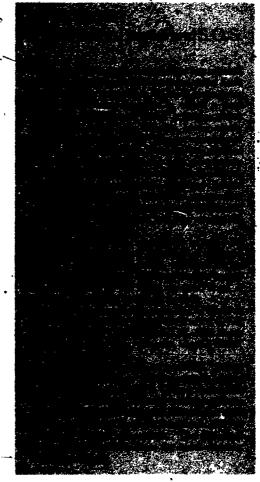
Association of State and Interstate Water Pollution Control Administrators

Chesapeake Bay Foundation, Inc.

Interstate Commission on the Potomac River Basin "

Association of State and Interstate Water Control Administrators

Water Pollution Control Federation



PERIODICALS

Chesapeake Bay. Chesapeake Bay Communication.

PUBLICATIONS

Toward Cleaner Water: The New Permit Program to Control Water Pollution. Stock #5501-00703. Price 504.

A 32-page EPA booklet "outlining the conditions under which discharge permits are granted to such polluters as



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GENERAL POLLUTION

factories, power plants, sewage treatment plants, and animal feedlots; and describing the role of citizens in the implementation of the program." Order from Government Printing Office

A Primer on Waste Water Treatment. EPA bboklet from the Water Quality Office. Revised March, 1971. For sale by U.S. Government Printing Office. 25 trades.

NOISE

ACTIVITIES

Kinds of Noises

- Sounds have certain properties that can be measured — for example, loudness, pitch, and regularity The higher the decibel rate, the higher the pitch or the more irregular the sound
- Tape record a variety of sounds from different sources on a recorder. Play them for the students.
- Ask the students to try to identify the sounds
- Discuss which ones you consider noise Why?
- List sounds that you consider pleasant and those you find annoying.

Reducing Sound

- Attach a buzzer or bell to a 6-volt battery with wires so that it will produce a steady sound. Place on a table.
- Listen to it ring for 2 minutes.
- Place a layer of sponge between the ball and table Listen to the loudness of sound now, and compare it with the loudness of the sound when the sponge was not used. Was the sound reduced? Why?
- Ask a gas station mechanic how a muffler works on a car.
- Ask the building services manager whether acoustical tiles are used in the school and why

Taken from A Better Place to Be, part of the Johnny Horizon Program of the U.S. Department of the Interior.

BOOK

Kerbac, Matthew J. Noise and Hearing. Arlington, Virginia: Output Systems Corporation, n d

FILMS

Noise: Polluting the Environment. 1971 — Rental \$9:00.

A 16-minute color film that presents convincing ender that prolonged exposure to rock music and other not pollutants can adversely affect hearing. Order Encyclopaedia Britannica Educational Corporation, 425/N. Michigan Avenue, Chicago, Illinois 60611

Noise Pollution. (MCPS F-6093) 1972. J,S 18 mincolor.

Demonstrates the nature of sound and noise and points out the difference between them. Examines the effects of noise pollution on the ear and on psychological health Studies how the atmosphere affects the propagation of sound.



Noise: The New Pollutant. 1967 — Rental: \$6.75 A 30-minute color film produced for N.E.T. It surveys all the standard sources of unpleasant noise and demonstrates methods of measuring decibel output. Order Indiana. University Audio-Visual Center, Bloomington, Indiana. 47401.

Noise. (MCPS F-5295) 1970. P,I 10 min color Discusses the difference between sound and noise Explores the effects of noise on the individual, and indicates ways to control noise pollution

The Quiet Racket. 1966 — Rental: \$12.50 7 min color A hilanous movie about a young man's unsuccessful efforts to escape the din of the city. Order: National Film Board of Canada, 6805th Avenue, New York, N.Y 10019

ORGANIZATIONS

Critizens Against Norse, 2729 East Liunt Avenue, Chicago, Illinois 66645

Gittens for a Quieter City, Box 777, F. D. R. Station, New York, N. Y. 10022

PUBLICATIONS

Highlights — The Noise Control Act of 1972:

A 4-page booklet detailing the EPA's strategy for reducing noise levels under the Noise Control Act of 1972. Write EPA Public Information Center (PM-215), 401 M-Street, SW, Washington, D.C. 20460

Noise From Heavy Construction. Stock #5500-00075 Price 254

A 6-page leaflet from EPA which can be purchased from Government Printing Office.

Noise Pollution — Now Hear This. Stock #5500-0072. Price 254

A 16-page EPA booklet discussing the dynamics, sources, and effects of noise and steps that can be taken to alleviate the problem. Government Printing Office

The Hormful Intruder — Noise in the Home. #5500-00074 Price 254

A 6-page EPA leaflet which can be purchased from the Government Printing Office

CHEMICAL AND BIOLOGICAL CONTAMINATION

BOOKS

Carson, Ráchel Silent Spring. Boston Houghton Mifflin, 1962.

Graham, Frank. Since Silent Spring. Boston. Houghton Mifflin, 1970.

Harmer, Ruth Mulvey. Unfit for Human Consumption. Englewood Chiffs, N.J. Prentice Hall Press, 1971.

McMillen, Wheeler Bugs or People. New York: Appleton Century Crofts Co., 1965. from The Conservation Foundation Letter (July 1973)

LEAD-THE "HIDDEN CURSE" OF THE GHETTO

Inner-city lead is everywhere It comes from automotive emissions, from lead-based paint, and from the water which in older buildings often runs through lead pipes Environmental writer Deniel Zwerdling, points out (in The Progressive, January, 1973) that such plumbing produces 46 times as much lead as in the suburbs where the pipes are galvanized iron or copper What does lead from waterpipes, tailpipes, and paint chips do? "Inorganic lead." says a 1971 EPA report. "is thoroughly implicated as a causative agent in decreased hemoglobin synthesis, liver and kidnev damage, mental retardation in children, and in abnormalities of festility and pregnancy "

Moreover. EPA explains, children are more susceptible to lead poisoning, which leads to encephalopathy and brain damage "One study disclosed that 200 normal children had blood levels of 14-to 30 micrograms per 100

grams of blood while 100 mentally defective children showed 40 to 80 micrograms per 100 grams of blood "Says a United Auto Workers pamphlet ominously "Five per cent of the children who eat lead paint die. 40 per cent of the survivors suffer permanent brain damage"

To make matters worse, lead poisoning manifests itself more a easily among persons with a hereditary susceptibility to sickle-cell anemia, a disease that occurs almost exclusively among blacks.

Lead is one of EPA Urban Affairs Director Carol Thomas's high-priority items "We suspect that a lot of 'slowness' in innercity kids may be attributable to lead in the system" Also, he has no patience with the assertion that the only culprit is lead-based paint, as the Ethyl Corporation would like ERA to believe Some of his research shows that lead poisoning is highest in the summer, when children are outside

breathing in auto exhausis rather than inside eating pains chips Lead from exhausis not only permeates the air. Thomas says, but settles on the ground, accumulating in the unswept streets "A kid can drop a sucker, and put it in his mouth, and he has ingested a significant quantity of lead". Nonetheless, the Urban Environment Conference is bearing

down on the newly enacted Lead Paint Poisoning Prevention Act They want to make sure that sufficient funding is provided to operate effective screening, treatment, and educational programs in urban "lead-belts", to develop standards that will (1) "validly measure the level of lead in paint already present on the walls," (2) enforce the removal of the hazard! and (3) provide permanent protection by regulating the amount of lead used in paint manufacture Warns the UEC "The mere existence of a statute does not insure the achievement of its goals."

Waste Disposal by Hydraulic Fracturing. 1966, free loan

Wastes are mixed with cement as they pass through a series of pipes, and are finally injected into a fracture in a horizontal shale formation below the earth's surface. This movie will best serve technical or advanced classroom audiences. Order: Same address as above, General Services Administration.

Who Shall Reap. 1969, free loan.*

The film contrasts the primitive pest control methods still in use in many parts of the world with sophisticated modern control technology. Specific focuses include current research efforts to develop safer methods of protecting food, fiber, and forests from pests to meet the needs of an exploding world population. Order: Audio Visual Services. — University of Maryland, Room 1, Annapolis Hall, College Park, Maryland 20742.

*Note Borrower pays for insurance, return postage, and handling Make requests at least three months in advance.

NEWSLETTERS

"Chesapeake Bay Foundation Newsletter" Chesapeake Bay Foundation, Inc. Environment Facts" and "Environment News" — Environmental Protection Agency

Note: There are several newsletters listed in the Newsletters section that deal generally with the environment issues of which might have information on chemical and biological contamination.

ORGANIZATIONS

Almost every environmental organization has devoted part of its actions to improving public and government awareness of the chemical and biological dilemna. The following organizations are at the forefront of the field. For additional information, addresses, and organizations, check the Organizations section.

Chesapeake Bay Foundation, Inc
Concern, Inc
Environmental Action
The Garden Club of America
League of Women Voters of the United States
Maryland Environmental Trust
Rachel Carson Trust for the Living Environment

FILMS

Man's Effect on the Environment. (MCPS F-5298) BFA 1970, J.S. 14 min. color

This film shows some of the effects of our exploitation of natural resources and raises questions as to the quality of life such environmental changes might provide

The following films are either free on loan or low priced rentals

The Epidemiology of Pesticide Poisonings. 1969, free loan.

Information-packed lecture on epidemiological methodology employed to trace the sources of pesticide poisonings. Two hair-raising case studies follow that are bound to raise questions about the effects of these agents on human health. Order General Services Administra-

tion, National Archives and Records Service, National Audiovisual Center, Washington, D.C. 20409

Safety in Salt: The Transportation, Handling, and Disposal of Radio-Active Waste. 1971, free loan The film is about the saga of AEC's 15-year search for a burial ground for its radioactive wastes. Abondoned salt mines in the town of Lyons, Kansas are chosen, and the move documents the controversy surrounding the action. Order: Same address as above — GSA.

Two for Fox, Two for Crow. 1972, free loan
One of the largest pesticide companies in the country
presents a different point of view in the battle against
chemical contamination. The rigidity of government
regulations and the safety of pesticides used according to
directions are stressed. The film avoids mentioning any
controversial pesticides such as DDT, and is therefore
quite one sided. Order: Association — Sterling Films, 866
3rd Averfue, New York, N.Y. 10023



PERIODICALS

Available in school and/or public libranes.

Environment. Level — HS, Sa/Issue — M-10 (none in June and August).

Environmental Science and Technology. Level — Sa, Ac/Issue-M.

Note: There are several magazines listed in the Periodicals section that often have articles on chemical and biological contamination but are not exculsively devoted to the subject

PUBLICATIONS

A Guide to Pest Control, by Dennis Puleston, 1974 Environment Defense Fund, East Setauket, Long Island, N.Y. 11733.

Available from: Monches Bay Audobon Society, Box 802, Center Monches, Long Island, N.Y. 11934.

Pesticides and Your Environment: A Guide for the Homeowner and Home Gardner, by John Cary Stone, 1972

Available from: National Wildlife Federation, 1412 Sixteenth Street, NW., Washington, D.C. 20036. Single

copies free, multiple copies - 25¢

Pesticides Registration: How It Protects You, Your Family, and the Environment 9 pages, illustrated Pamphlet describes the two laws under which EPA requires registration of pesticides. Two pages list six special texts that the household user should take in avoiding accidents in the application of pesticides. Available from Environmental Protection Agency, Waterside Mail, 401 M Street, SW., Washington, D.C. 20460.

Pesticides: What Are They? What Do They Do? Reprint from May-June 1971 issue of Ranger Bick's Nature Magazine.

Available from: National Wildlife Federation, 1412 Sixteenth Street, NW., Washington, D.C. 20036. Single copies free; multiple copies, 154.

SOLID WASTE

ACTIVITIES

1. Create a situation in which a subcommittee of the state legislature has been designated to write legislation to prohibit use of non-returnable beverage bottles. Divide students into different groups such as supermarket owners, bottle and can manufacturers, landfill operators, ecologists, and "concerned citizens," to act as lobbyists who will prepare a 3.5 minute presentation of their views to a 5.7 membersubcommittee The student subcommittee should have the opportunity to question lobbyists. In a subsequent session, the subcommittee meets in front of the class to draw up the proposed bill Follow with a discussion on the "fairness" of the bill, arguments of the different lobbyists, and expression of personal opinions. From Teaching Activities in Environmental Education by John H. Wheatley and Herbert L. Coon. ERIC/SMEAC.

BOOKS

Environmental Resource Papers in the "Investigating Your Environment" Book V Menlo Park, California. Addison-Wesley Publishing Company, 1975
A 57-page anthology containing 13 articles on a high school level.

CURRICULA

A Curriculum Activities Guide to Solid Waste and Environmental Studies. ERIC #ED 080348 (See section on Instructional Guides)

FILMS

Burn, Bury or What? (MCPS F-5960) 1970. J,S 19 min color.

Describes how the District of Columbia has begun to address the problem of solid waste disposal by developing a long-range plan Illustrates how other cities can solve solid waste disposal problems by using a sanitary landfill, accomplished through the use of the latest engineering techniques.

Cycles. 1972 - free loan.

This 13-minute color film surveys the solid waste problem and the methods currently employes to reclaim and reuse

metal and glass refuse Order Association Sterling Films, 866 3rd Avenue, New York, NY. 10022

The Great All-American Trash Can, 1971 — free loan

A 13-munute color film on the problems and possibilities of recycling bottles. Order Commonwealth Film Distributors, 1440 S State Collège Boulevard, Building 6-K, Anaheim, California 92806.

Recucling. (MCPS F-5958)

A 21 minute color film which shows existing techniques for recovering materials from solid waste and describes the newly developed equipment and systems 1971

Steel — The Recycled Material. 1972 — free loan A 10-minute color film on the problems and possibilities of recycling steel. Order Association Sterling Films, 866 3rd Avenue, New York, N Y 10022

Trash to Kilowatts. (MCPS F-5726) J,S 10 min color Shows an experimental plant of processing solid waste into refusable scrap iron and burnable trash for generation of electricity.

NEWSLETTERS

"Earthworm News," Recycling Revolution Cooperative "Litter Bits of News & Facts," Crusade for a Cleaner Environment

ORGANIZATIONS

Crusade for a Cleaner Environment Environmental Technology Seminar League of Women Voters of the US Recycling Revolution Cooperative

PERIODICALS

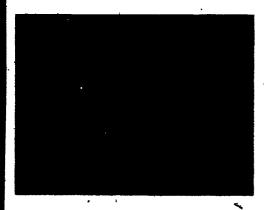
Available in schools or public libraries.

American City Magazine

City

Environmental Science and Technology





PUBLICATIONS

Recycle? League of Women Voters Education Fund, 1730 M Street, NW., Washington, D.C. 20036.

Publication #132. 75¢ a copy, quantity rates 1972 An excellent 39-page pamphlet introducing senior-highlevel students to the issues and options in solid waste disposal and resource recovery. Four page bibliography.

Another pamphlet published by the League of Women Voters Education Fund is More? Publication #204. 1972. 44 pages, 754 explores the interfaces between population, economic growth, and the environment" as these pertain to solid waste recovery policies.

Solid Waste Management — Recycling and the Consumer.

This 12 page EPA booklet "Provides an overview of the provides of recycling consumer waste and the feasibility of the proposed solutions." Write: EPA, Public Information Center (PM-215), Waterside Mall, 401 M Street, SW., Washington, D.C. 20460

Let's Dump the Dump — The ABC's of Solid Waste Management.

This 16-page EPA booklet, written for elementary students, introduces concepts of solid waste management. Write: EPA, Public Information Center (PM-215), Waterside Mall, 401 M Street, SW, Washington, D.C. 20460.

There Lived a Wicked Dragon. Stock #5502-00106, price 704.

This 31 page EPA coloring book tells a story "about a dragon which feeds on pollution and grows large enough to threaten a nearby village until the people in the village develop a waste management system." Order from Government Printing Office.

Mission 5000-A Citizens' Solid Waste Management Project. Stock #5502-0087, price 50¢.

Describes the EPA's plan to eliminate the open dump and to replace it with modern solid waste handling facilities Order this 16-page booklet from the Government Printing Office

Energy Recovery From Waste. Stock #5502-00116, Price 45¢

A 16-page EPA booklet that discusses the recovery of energy by burning shredded residential solid waste as supplementary fuel in boiler himages. Order from Government Printing Office





TIVITIES

1. From Environmental Discovery Series, "The Rise and Fall of a Yeast Community "

Acquaints students with formation and use of a population curve, helping them see how it is affected by environmental factors. Great introduction for general study of population, (Grades 6-9)

2. From Energy and Man's Environment Activity Guide

Arrange students equidistant from one another all over the son. After 3 minutes, discuss their reactions to occupying space allotted. Then have all of them move into half the room, and after three minutes, discuss reactions. Keep halving the available space until about 2 square feet per student is reached. Discuss the problem of congestion due to overpopula-

BOOKS

Bird, Caroline, Crowding Syndrome: Learning to Live With Too Much and Too Many. New York McKay, 1971.

Available in most Montgomery County Public Libraries

Brown, Harrison Scott, and Hutchings, Jr., Edward Are Our Descendants Doomed: Technological Change and Population Growth. New York Viking, 1972.

Proceedings of a population conference held at California Institute of Technology Available at most Montgomery County Public Libraries

Drummond, A. H. Population Puzzle — Overcrowding and Stress Among Animals and Men. Reading, Mass. Addison-Wesley, 1973.

Ehrlich, Paul R The Population Bomb. New York Ballantine Books, Inc., 1975.

Pushes need for population controls. Talks of "man's inalienable rights ---

- to eat
- to have decent, uncrowded shelter
- to enjoy natural heauty to avoid pesticide poisoning
- to have freedom from thermonuclear wars
- to limit families
- te have grandchildren."

(Recommended in Whole Earth Epilog, and available in MCPS and Montgomery County Public Libraries)

Fraser, Dean, People Problem, What You Should Know About Growing Population and Vanishing Resources. Bloomington, Ind.: Indiana University Press. 1971.

Available in most Montgomery County Public Libraries

Hazen, William E Readings in Population and Community Ecology, 3rd. ed Philadelphia WB Saunders Co., 1975

Hellman, Harold Population. Philadelphia: Lippincott,

Children's book Available in most Montgomery County Public Libraries.

Hyde, Margaret Oldroyd This Crowded Planet. New York: McGraw, 1961

Available in mest Montgomery County Public Libraries

_Pringle, Laurence P. One Earth, Many People - The Challenge of Human Population Growth. New York: MacMillan, 1971.

Available in Montgomery County Public Libraries

CURRICULUM GUIDES

A Curriculum Activities Guide to Population and • Environmental Studies. ERIC #ED 080349 (See section on general curriculum guides)

Population. Environmental Ecological Education Project. ERIC #ED 098072

(See section on Instructional Guides)

FILMS

Challenge to Mankind, (MCPS F-2234) 1960 S 29

A panel of experts from around the world discusses the crises in world population and food supply

House of Man, Part II: Our Crowded Environment. (MCPS F-4770) 1969 J.S. 11 min color.

Discusses the problems that have resulted from the population explosion of the 20th century, including housing and food shortages, proverty, pollution, industrial(waste, and exploitation of natural resources

. Population Ecology. (MCPS F-4153) 1966 S 19 min

Analyzes the effects of environment as they relate to surplus or decline of births over deaths.

Standing Room Only. (MCPS F-4574) 1967. J.S 25

Discusses population explosion.

GAMES

Population. A game of man & society (for 2-6 players. ages 12 to adult)

Deals with the planet Celestra, a small planet much like Earth, with a very simple life style. The people support themselves by farming, but technology is on the rise With lowering death rates, the prospect of a population explosion is becoming greater. The object is to avoid the

Each player begins with a small country, limited money, a small population, and agriculture adequate to feed the population The student must acquire resources to develop his/her country to its fullest potential possible and control growth so that the population doesn't outgrow the country's limits of space and resources From Urban Systems, Inc., 1033 Massachusetts Ave nue, Cambridge, Massachusetts 02138

NEWSLETTERS

"Population Bulletin." Population Reference Bureau

ORGANIZATIONS

Planned Parenthood — World Population, 515 Madison Avenue, New York, NY 10022

Population Reference Bureau, 1755 Massachusetts Avenue, NW, Washington, D.C. 20036, Phone 232-2288

Zero Population Growth, 1346 Connecticut Avenue, NW, Washington, D.C. 20036, Phone. 785-0100

The Population Council, 245 Park Avenue, New York, N Y. 10017

Population Crisis Committee, 1835 K Street, NW. Washington, D.C., Phone, 659:1833

The Population Institute, 110 Maryland Avenue, NE, Washington, D.C., Phone 544-2202 (Student & Youth Division 544-3310)



PUBLICATIONS

The Birth Rate & Population Growth in the U.S.
Government Printing Office, Stock #1746-0008 price
15#

Food/People: The Trofblesome Equation. Stock #550, price 35#

Pamphlet put out by the League of Women Voters February 1975.

The Interfaces Between Population Economic Growth and the Environment. 1972, Stock #104, price 75¢ (44 pp.)

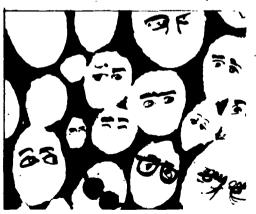
A pamphlet put out by the League of Women Voters that outlines the relationships among population, environment, 'employment, renewable and nonrenewable re sources, and national and regional economic development. Concerns for urban development, transportation, land use policy, and national growth also

Population and the American Future. The Report of the Commission on Population Growth and the American future New American Library (Signet Special), New York. 1972. Public Affairs Pamphlet #503 of same title, by Elizabeth Ogg, with summary of above. 1974.

Population Challenge, What it Means to America.
Put out by U.S. Department of the Interior, Government Printing Office, 1966.

From: The Population Council.

a) Series of reports ("Reports on Population/Family Planning," "Governmental Statements on Population! An Inventory," "Population Growth and Economic Welfare," "Population Pressures on Families: Family



Size and Child Spacing") available in English, French, and (selected issues in) Spanish

 b) Current Publications in Population/Family Planning (a bi-monthly bibliography with abstracts of selected articles and books)

c) Studies in Family Planning (monthly publication with articles on a wide range of topics related to population and family planning. Available in English, French, and Spanish) Write Information Office — The Population Council Back usues and bulk orders for educational purposes available

Population Profiles. A series of 14 or more units, plus extras for the study of demography Edited by Townsen Scudder. Produced by the Center for Information on America (a nonprofit, educational corp.), Box C Washington, Conn 06793

Series:

This Crowded World. (Grades 4-6) 1970 People! (Grades 7-9) 1968 The World Population. (Grades 10.12)

The World Population. (Grades 10-12) 1972 By Population Reference Bureau. Published by Columbia Books, Inc. Price \$2

Projection Highlights. Put out by National Planning Association, 1606 New Hampshire Avenue, NW, Washington, D.C. 20009. Phone: 265-7685.

Economical Projections. Membership in NPA of \$30 per year (tax deductible) includes subscription to **Projection Highlights**

Where Shall They Live? Booklet by James L Sundquist, 1969. Order from The Brookings Institution, 1775 Massachusetts Avenue, NW, Washington, D.C. 20036 14 copies free, 5-10 copies \$1; over 10 copies, 10¢ each

World Population and a Global Emergency. Booklet by Thomas W. Wilson, Jr., put out by Aspen Institute for Humanistic Studies, Program in Environmentaland Quality of Life, 1755 Massachusetts Avenue, NW., Washington, D.C. 20036.

World Population Estimates. 1974 (chart). The Environmental Fund, 1302 18th Street, NW., Wash ington, D.C. 20036. Phone 293-2548

MAPS

World Population Growth Pattern. 1972, Stock #0324-00580

World Fertility Pattern. 1972, Stock #0324-00579
World Mortality Pattern. 1972, Stock #0324-00581

These maps are available at the Government Printing Office, Washington, D.C. Write Superintendent of Documents, price 25¢





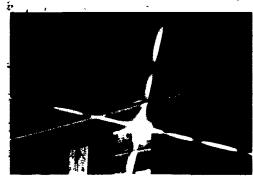
SOLAR SCHOOLHOUSE

During the Truman administration, an executive office report estimated that about 40 percent of the energy needs for heating homes in the United States could be met by solar energy. That report was written in the late 1940's. If its recommendations had been followed, solar technology would have reached high gear by 1965, which means we probably could have avoided the energy crunch we are faced with today. But, alas, as a nation we took the route of expediency: we chose oil. We chose the Arab boycott and all the ominous political and economic nightmares that went with it after our own petroleum reserves gave out. We'then chose nuclear power upon the realization that even the vast black pools of araby were finite, despite grave dangers of lacker waste and nuclear proliferation.

However, right here in Montgomery County, vocational students of several MCPS thigh schools, under the direction of some staff people in the divisions of Construction Trades and Environmental Education, have constructed a solar schoolhouse on the grounds of the Lathrop E. Smith Environmental Education Center This is the first public building in Montgomery County to be heated by the sun!

The solar schoolhouse measures 28' by 32' and is of brick veneer construction. It has a bank of 9 solar collectors on the south-facing roof, which, thanks to common glass, will provide 72 per, cent of the structure's heat load. The incoming rays of the sun (which are always short wave) penetrate the glass and are changed to long wave radiation after striking the copper Glass does not permit passage of the long wave radiation. This causes heat build-up on the copper. The heat, in turn, is carried away by water flowing through small tubes in the panel. The heated water is pumped through-radiators to heat the house. A 500-gallon tank in the basement stores hot water for nights and cloudy days. It sounds simple; but it takes numerous pumps, valves, thermostats, and plumbing to keep it working

The solar schoolhouse wall serve as a demonstration model for the school system and community An interpretive educational program is planned which will explain the construction and operation of the structure. Both feachers and students are encouraged to visit the solar schoolhouse. To arrange a visit, contact the Director, Lathrop E. Smith Environmental Education Center.



ACTIVITIES

Energy & Man's Environment. Activity Guide This general guide is divided into six different aspects of Energy with objectives and activities listed Lists appropriate grade levels. Thomas F. Ris (ed.), University of Washington, 2121 Fifth Avenue, Seattle, Washington 98121

BOOKS

Foreman, Harry (ed.) *Nuclear Power and the Public. Minneapolis: University of Minnesota Press, 1970.

Garvey, Gerals Energy, Ecology, Economy: A Framework for Environmental Policy. New York W.W Norton & Co., 1972

Holdren, John, and Herrera, Philip. Energy, A Crisis in Power. New York Sierra Club, 1971

A scientist examifies the sources and effects of energy production, and a journalist reports on the efforts of individuals and groups to protect the environment

FILMS

Conservation of Energy. (MCPS F-1598) 1961 S 27 min. b&cw.

Traces energy from coal to electrical output in a large power plant, showing how quantitative data is taken in the plant. Demonstrates the law of conservation for random and orderly motion

Energy — Choices, Options, Decisions. (MCPS F-6438) 1974. J.S. 15 min. color.

Energy: Less is More. (MCPS F-6385) 1974 J,S 20

Energy: New Sources. (MCPS F-6384) 1974, J.S. 20 min. color

Energy: The Dijemma. (MCPS F-6321) 1974. J,S 20 min. color.

What's the Energy Crisis All About? (MCPS F-6323) *1974 I.J.S 25 min color

The Energy Challenge. (MCPS F-6072) 1973 J,S 25 min. color

Discusses the limitations of present energy resources to meet the growing need for power in the US and shows how the modern world is dependent on the supply of oil from the Middle East Examines future power sources, and demonstrates how we can conserve energy

Energy Crisis. (MCPS F.5683) 1972 J,S 13 min color Reviews the different energy sources, and indicates their limitations in meeting our growing needs. Shows the possibility of solutions and developments which some day may provide unlimited power.

Energy From the Sun. (MCPS F-2448) 1963 J,S 16 min color

Shows our dependence upon sun's energy and indicates the ways in which direct energy can be utilized

Energy From the Sun. (MCPS F-805) 1955. J,S 11 min b&w

Illustrates the importance of the sun as the earth's major source of energy. Shows how solar energy is transmitted through space, utilized by people and plants, and stored for future use.

Prudhoe Bay — Or Bust! 1970, 30 min color — Rental \$11 50

This film examines the possible ecological repercusions resulting from construction of the Alaska oil pipeline. The fact that the pipeline was begun in 1974 makes the film even more valuable as a classroom aid. Order. Indiana University Audio-Visual Center, Bloomington, Indiana 47401,

GAMES

EEG, The Energy Environment Game. Developed by Creative Studies, Inc., Boston, Massachusetts

Copyright, 1973. Edison Electric Institute, 90 Park Avenue, New York, NY 10016

"An educational simulation for science, social studies, and English classes in Grades 7-12. Through a series of meetings, students consider society's demand for energy, its potential impact on the environment, and possible trade-offs." Guides, filmstrip and record, rolecards, simulation aids, maps and references

PEPCO's Educational Services provides these games to teachers and schools in the PEPCO service area Contact Public Information Department, Potomac Electric Power Company, 1900 Pennsylvania Avenue, NW, Washington, D.C. 20006



BOOKS

Flaun, Peter Tyrell. Environmental Geology; Conservation, Land Use Planning, and Resource Management. New York: Harper, 1970

Reilly, William K. (ed.) The Use of Land: A Citizen's Policy Guide' to Urban Grouth, New York: Thomas Y. Crowell, 1973.

U.S.D.A. The Yearbook of Agriculture, 1958. Land. Washington, D.C.: United States Department of Agriculture, 1958.

CURRICULA

The Development and Subdivision Within the Parkway School District. ERIC #ED 099210 (See section on Instructional Guides.)

This Land Is Your Land. The Problem of Land Utilization. ERIC #ED 099210 (See section on Instructional Guides)

FILMS

The Desert and Man. (MCPSF-5340) 1968. P.I. 10 min color.

Describes how a barren wasteland can be transformed into a productive area. Points out that man has learned to live in harmony with nature rather than trying to fight it

Grapes of Wrath. (MCPS F-6133) 115 min
The classic film of John Steinbeck's novel, starring Henry
Fonda, filmed in the late 1930's. The story begins with the
Joad family being forced off their farm in the Dust Bowl of
Oklahoma, and traces the Joads into the "Okie" migrant
picker camps of California's Great Valley The first part
of the film does an excellent job of relating human misery
to land misuse.

Grasslands Ecology — Habitats and Change. (MCPS F-6080) I.J.S 13 mm. color.

Analyzes the ways in which fire, flood, drought, and animals have changed the American prames. Examines our role in changing the praines.

The Great Plains: Land of Risk. (MCPS F-4408) P,J 15 min: color.

Follows the movements of the ranchers and farmers who settled the plains in the 1860's and faced constant threats from drought, dust, and wind.



Man Makes a Desert. 1964, 10 min. color — Rental: \$6.50.

Traces the process by which ranchers and farmers made a desert out of the Southwest's once rich pasture land Order BFA Educational Media, 2211 Michigan Avenue, Santa Monica, California 90404.

No Room for Wilderness? 1968, 26 min color — Rental: free loan.

A beautiful Sierra Club film depicting the once lush South African wilderness that was civilized into oblivion. Strong contrasts between the wilderness as it was and the later destruction of the ecological balance after Europeans brought sheep, cattle, and the prickly pear cactus. Order: Association-Sterling Films, 866 3rd Avenue, New York, N.Y. 10022.

GAMES

The Airport Game. One of the Urban Design Games developed by San Antonio City Edges, 1974, supported by a grant from National Endowment for the Arts Students assume they are members of a San Antonio City Council Advisory Task Force With the use of a map and overlays, they must study five proposed sites for a new municipal airport and decide which is best suited Copyright by Citizens for a Better Environment, Inc. and La Mancha Group. Inc.





INSTRUCTIONAL MATERIALS

Environmental "Resource Papers in the "Investigating Your Environment" Program Book 8. Menlo Park, Ca.: Addison-Wesley Publishing Company, 1975

This is a learning module dealing with paragraphy or street.

This is a learning module dealing with various environmental issues and problems.

NEWSLETTERS

"Institute for Research on Land and Water Resources Newsletter," Institute for Research on Land and Water Resources.

"Man and Resources," Canadian Council of Resources and Environmental Ministers

"The ORV (Off Road Vehicle) Monitor," Environmental Defense Fund.

"Potomac Basin Reporter," Interstate Commission on the Potomac River Basin.

ORGANIZATIONS

American Forest Institute

Environmental Data Service (EDS)

Environic Foundation International

Friends of the Earth

Institute for Research on Land and Water Resources (Penn State University, University Park, Pennsylvania 16802)

(The above organization is not in the General Organization list)

Izaak Walton League of America

Maryland Environmental Trust

Sierra Club

Tundra Ecosystem Research Program

The Wilderness Society

PERIODICALS

The following can be found in school and public libraries

Environment. Scientists' Institute for Public Informa-

See the Periodicals List for the addresses of the following periodicals for subscriptions

Landscape Architecture.

The Journal of Environmental Education. Dembar Educational Research Services, Inc.



environmental facts

LAND USE

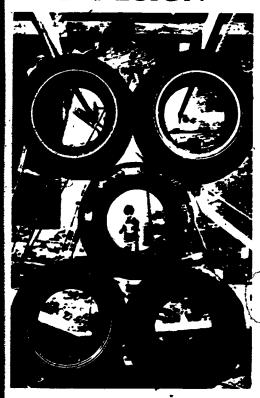
Like all advenced nations, the United States is using land more extensively than ever before. Certain kinds of land resources are becoming scarce-land within a reasonable distance of urban centers evailable for housing, recreation and waste disposition; land within cities that can be used for transportation networks, parks and open space; and land to accommodate commercial facilities, housing and centers of higher education. At the same time we must conserve valuable farm land in order to provide food, feed and fiber for our still expending population and world markets.

Our intensive and consumptive use of the land is expected to escalate dramatically in the next 27 years. In fact, all that has been built in the history of this Nation may have to be duplicated. That is, the equivalent of every school, pipeline, power-plant, effice building, airport, shopping center, factory, home and highway that has been built during our first 200 years may have to be matched to accommodate population and market demands projected for the year 2000.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY • WASHINGTON, D.C. 20460



URBAN ECOLOGY AND DESIGN



Gill, Don, and Bonnett, Penelope Nature in the Urban Landscape: A Study of City Ecosystems. Baltimore: York Press, 1973.

Goodman, Robert, After the Planners. New York Simon and Schuster, 1971

McHarg, Ian. Design with Nature. Garden City, New York: Natural History Press, 1969

Moore, Gary T (ed.). Emerging Methods in Environmental Design and Planning. Cambridge: MIT Press, 1970.

Robinson, Albert J. Economics and New Town: A Comparative Study of the United States in United Kingdom, and Australia. New York Praeger Press, 1975

Rudofsky, Bernard. Streets for People. Garden City, NY Doubleday, 1969

Schmertz, Mildred. (ed.). Acquisition, Conservation, Creation, and Design of Open Space for People. Washington, D.C. The American Institute of Architects, 1973.

Book obtainable from AIA, 1735 New York Avenue, Washington, D.C. 20006

Shoman, Joseph James Open Land for Urban America: Acquisition, Safekeeping, and Use. Baltimore The Johns Hopkins Press, 1971

Smith, James Noel (ed.) Environmental Quality and Social Justice in Urban America. Washington The Conservation Foundation, 1974

Vosburgh, John Living with Your Land. New York Scribners, Inc., 1972

Whyte, William H The Last Landscape. Garden City, N Y. Doubleday Books, 1968

INSTRUCTIONAL GUIDES

Project Quest — Quality Urban Environmental Studies Training, ERIC #ED 099240

Student Action for the Valley Environment (SAVE) ERIC #081601

Note: For additional information on these instructional guides and other general environmental education topics, refer to Instructional Guides

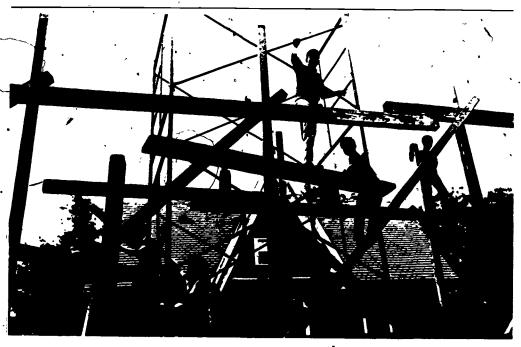
BOOKS

Arango, Jorge The Urbanization of the Earth. Boston: Beacon Press, 1970.

Banfield, Edward C. The Unheavenly City Revisited: A Revision of the Unheavenly City. Boston Little, Brown and Co., 1974.

Barnett, Jonathan Urban Design as Public Policy: Practical Methods for Improving Cities. New York McGraw-Hill, 1974

Ewald, W.R. Environment and Change. Bloomington Indiana University Press; 1968.





FILMS

A Land Betrayed. (MCPS.E-4672) 1967. P.J.J.S. 10 mm color.

Points out the growing defacement of America, showing the importance of the individual in keeping America beautiful. Also examines the efforts of some organizations and local and federal governments to solve this problem.

Boomsville. (MCPS F-5252) 1970 J.S. 11 min. color Shows our interaction with our surroundings, tracing how we took a virgin land and made it a frantic congested "boomsville."

Cities and History: Changing the City. (MCPS F-4523) 1967, P 8 min. colot

Discusses some of the reasons for change in city neighborhoods and show that change can mean both improvement and decay. Illustrates how city planning can affect the deterioration or growth of a neighborhood

How to Look at a City. (MCPSF 4768) 1964 S. 30 min.

Eugene Raşkın paints a word portrait of New York and discusses the fundamental standards used by architects and by planners to judge the quality of a city's neighborhood — human scale, density, and variety

The following films have been recommended by the Environmental Information Center and are either free loan or low priced rentals. The Center's comments have been annotated.

Three Cures for a Sick City. 1964 — Rental: \$6 75 This film is a look at three approaches to the problems of the urban environment in Washington, D.C. Georgetown is examined in depth, from its redevelopment from an elegant area to a semi-slum in the 1930's to an expensive, chic area of town. Southwest Washington, on the other harid, exemplifies the bulldozer approach. The entire area was razed, dislocating the low income residents, to make way for high income apartments and townhouses. In the third story, the residents of Atlams-Morgan formed their own urban renewal funds were denied, leaving the area to deteriorate, Order: National Bank of Detroit, Public Relations Department, 611 Woodward, Detroit, Michigan 48232

Pandora's Easy Open Pop Top Box, 1967 — Free loan. Also available through MCPS F-4761

The contrast between country and urban areas is spotlighted in this film, with the varying images and sounds of each presented without narration Naturally, the liban area come out the worse in the companison, but the filmmakers, the U.S. Public Health Service, are hopeful that health and well-being can be brought to presently blighted urban areas. The photography and

sound mix are excellent. Order: General Services Administration, National Archives and Records Service, National Audiovisual Center, Washington, D.C. 20409

The Pedestrian Strikes Back. 1967 — Rental \$5. An Account of the success of pedestrian malls in one of the most car-loving areas in the world — 'Southern California. The malls are compared to some in Europe, and the increased pedestrian and business traffic is related. Order: Portland Cement Association, Old Orchard Road, Skokie, Illinois 60076.

Time to Begin. 1970 - Rental: \$8.

A hearty invective against the visual assults that Americans are subjected to every day. The film rapidly cuts back and forth between these aesthetic disasters and a tour of Virginia's highways, villages, and cities. The effect is dizzying but the argument against visual pollution is well made. Order: The Colonial Williamsburg Foundation, Drawer C, Williamsburg, Virginia 23185.

PEOPLE'S PARKS

We have witnessed in this country the emergence in the last few years of spontaneous, popular, actionoriented, ecology-conscious people's groups. Many of these have turned their activist efforts toward the creation of so-called "people's parks." This is not surprising, because open space, in the full meaning of the word "open," should be a natural locus for the expression of spontaneous and imaginative action.

Consider one of New York City's people's parks — The Park — built under the sponsorship of a group called Environment. A small piece of vacant land in an area called Hell's Kitchen, it was used until recently for, among other things, stripping stolen cars. Now it is a park. It include space for more traditional functions—grass and benches for sitting and a paved area for basketball. It all shows imaginative-use of common materials as substitutes for expensive playground equipment: cable spools stacked to civate a climbing tower, a tree-touse with a cargo net instead of a ladder and a baker's vat for a wading pool. It was built with volunteer labor.

Hard hats and long-haired youths worked on it. It is now used by them and by kids and older people from the neighborhood. The creation of people's parks is an expression of a desire to reclaim from established bureaucracies a function many feel these institutions no longer perform adequately — providing open space to meet the needs of a vital, diverse and dynamic urban population

CONVENTIONAL WISDOM NO LONGER WORKS

As designers, we all accept the goal of serving human needs as an established objective of open-paper design, but in practice we often have defined these needs rather narrowly as recreation.

Conservation or beautification. We also have done

little to define other human values that can be served by open space and therefore have been unable to specifically design open spaces to satisfy these values

Consider the conventional open-space planning process. It begins with an analysis of the existing population, its numbers and its grouping into neighborhoods bounded by natural or man-made features Then, to these numbers and groupings, standards are applied relating to fairly conventional, mostly regreational activities: so many baskethall courts or acres of land for planning. Open space, to be useful, particularly on a frequent basis - daily or weekly - must be accessible to the potential user. A network of small spaces, developed as an integral part of the urban fabric, is more useful to the center-city ghetto dweller than the kind of large regional park which is available only to those with automobiles. A network of circulation for driving, walking or cycling is the essential factor in opening the space up to potential users. Opposition to the location of highways through open space is widespread, yet, intelligently located and regulated highways can serve to open the space up to potential users The significance of accessibility to open-space planning requires the careful design of the edges of open space as they meet the urban fabric. These edges are important not only because their design will make the space more open, vuible and accessible, but also because their location, close to urban users, often will make them the most frequently used. Open space must be physically, psychologically and socially accessible. A person should feel that the space is close, easily reached and free of danger or social barriers. We can increase the accessibility of open space, and extend the choice of activities by pairing spaces and facilities. Open meadows next to deep woods or play areas next to picnic tables allow members of the same group to enjoy different activities.

SUMMING UP

We need to free ourselves from the stereotyped way in which we define open space. We must design open space in conjunction with the circulation systems and the living and working areas of the city, not in antithesis to them. Open space is not negative space, the antithesis of development, but an integral part of the city's environment and daily life. As designers, we must look to the people and work with them so that we can proceed to design, knowing who will use the space, how he will get to it and what will be available to him once he gets there. Having by this means established the pattern of use, we can then develop the form and the character of the openspace as a complete subsystem closely related to all the other subsystems in the urban area. It is not enough, as often has been done in the past, to color a map green

ERIC Full Text Provided by ERIC

34

BOOKS

Bernarde, M.A. Our Precarious Habitat. New York W.W. Norton and Co., 1973

Cooley, Richard A., and Wandesforde Smith, Geoffrey. (eds.). Congress and the Environment. Seattle, Washington: University of Washington Press, 1970

Congress responded very slowly to the wishes of a great majority of the American public. A redwood national park did not become a reality until over seventy years after it was first proposed. Should changes be made in the American political system to make government more responsive and effective in its efforts to restore or preserve a quality environment? If an apparent majority of Americans agreethes some old-growth redwoods should be preserved in a national-park, what enteria can be used to determine the correct number of acres to include? At what point do all the costs of an additional acre exactly balance all the possible social benefits to be gained from preservation of that acre? For that matter, how can one measure the costs and benefits of a scenic or recreational resource?

Our present political system is inept at weighing local interest and well-bring on the one hand, and the netional interest on the other hand, in conservation matters. Certainly we do not want a tyranny of the majority, the ecohomic interests of a local area or special-interest group must be considered. But this can not be to the exclusion of all ether considerations. The case of the redwood national park controversy illustrates this major limitation to existing methods of decision making. Many congressmen are samply unable to weigh the long-term setthetic and ecological implications of national park legislation because their constituencies easer heavy and constant pressures upon them to deliver more tangible benefits. Thus, short-term economic considerations often have the advantage over aesthetics and ecology.

In the context of current conservation politics, this problem is particularly pressing. If, as a nation, we full in our efforts to save sheaterpieces of nature, in most cases we will not have that opportunity later. If we do not save the giant redwoods now, we will not have another chance until perhaps the year, 2500. The emphasis on the possibly adverse effects on the economy in the fight to save the redwoods is disturbing. It is disturbing because it suggests the inability, or at least the unwillingness, of Congress to deal explicitly and directly with some central political issues.

Mitchell, John , and Stallings Constance L (eds)

Ecotactics: The Sierra Club Handbook for

Environmental Activists. New York Simon &
Schuster, 1970.

Nader, Ralph, and Ross, Donald Action for a Change: A Student's Manual for Public Interest Organizing. (rev ed.). New York Grossman Publishers, 1972

MODEL STATEMENT OF PURPOSE AND OBJECTIVES

_PIRG will undertake to identify and evaluate issues involving
public policy decisions, including, social planning, institutional
regulation and control, and markers of individual rights which
affect substantial sumbers of people __PIRG will determine the
alternative solutions available, in order to determine what course
of action __PIRG should take to bring about corporate, governmental, and other institutional changes that are necessary to further the public interest.

Action taken by __PIRG will conset of a coordinated effort of analysis and research, public education, active representation before legislative bodies and before administrative pad regulatory agencies; and litigation—where such actions are warranted—to achieve the goals of this group. It will not become involved in internal campus disputes for disputes between campuses.

The general areas of __PIRG concera will include consumer protection, resource planning, occupational safety, protection of natural areas and environmental quality, racial and sexual discrimination, landlord/senant relations, delivery of health care, freedom of information in government, and similar matters of urgent or long-range concern to the welfare of the people of the State of

HOW TO ORGANIZE

MODEL LIMETABLE*

Lit West—Introduction of the student PIRG plan to students on various campuses throughout the state or region. At the end of the first week, state or regional meeting to bring schools together to discuss the need for a PIRG, the necessity for unity, and the strategy for the statewide or regional effort.

20-West Explanation of the PIRG plan hagistents on all cam puses by news articles and other media. Development of core groups on each campus not contacted during the first week.

3rd Writ Second state or regional meeting Initial phase of out ising specific PIRG model and proposal Drafting of petition and design of new publicity.

and design of new publicity,
4th and 5th Works. More intende effort to notify students of the effort under way. Low key publicity campaign, intensifying and
chimazing with accent on the upcoming petition campaign. Third
state or regional meeting.

6th West Petition drive (7th and 8th West: Completion of petition drive with greater than 50 percent support in each school. Fourth state or regional meeting. Development of strategy to be used in approaching moveming hoards.

9th West Beginning of negotiations for administration approval, the length of time negotiations last depends on who has to be neceptand math.

INSTRUCTIONAL GUIDES

Note: For further information on this and other general environmental curricula refer to Instructional Guides.

FILM

The following films, recommended by the Environmental Information Center, are free loan or low priced rentals

A Question of Values. 1972 - Free loan

Illustrates an intense public debate in a small Main town torn by conflict between environmental preservation and economic development. A New York oil company wants to build a modern oil refinery in Maine, and crude oil would be provided by 200,000 ton tankers. Huge oil spills could wipe out lobstering, fishing, and the tourist based economy of the area. But there is high unemployment in the area, and the refinery would bring jobs and attract satellite industries. The Maine people involved have taken sides because they know their future could be at stake. Order: National Audiovisual Center, Distribution Branch, Washington, D.C. -20409. Note the borrower pays for insurance and return postage. Films are not loaned to minors. Make requests three months in advance.

The New Willamette. 1975 — Free loan — Film demonstrates how a major river can be restored, using as an example the Willamette River, the country's 12th largest river. It also is instructive as a model for the cleanup task ahead for other rivers of the nation Order HQDA — Headquarters, Department of the Army, DAEN-PA, Washington, D C 20314 Note Borrower pays for return postage. Requests need only allow time for mailing.

Voices. 1974 — Free loan

A chronicle of environmental action by concerned citizen activist groups in Chicago, Cleveland, and Missouri Order Modern Talking Picture Service, c/o Robert Shellenberger — Phone: 659-9234, Suite 4, 2000 L Street, Washington, D.C. 20036 There? Borrower pays for insurance and return postage. Make requests three months in advance Films are not loaned to minors

Yours for a Change, 1972 — Free loan

The film introduces basic ecological concepts such as the interdependence of all living things and recommends some environmental improvement projects within the capabilities of young viewers. The projects suggested by the film are useful, but the magnitude of community environmental problems is ignored. Order: Sterling Films Association, 866 Third Avenue, New York, N.Y. 10122

NEWSLETTERS

"Chesapeake Bay Foundation Newsletter" & Chesapeake Bay Foundation, Inc."

"Defenders of Wildlife News," Defenders of Wildlife

"Environment Action Bulletin," Environmental Action



"National News Report," Sierra Club "Sierra Club Bulletin." Sierra Club

ORGANIZATIONS

The main purpose of most environmental organization is to increase public and governmental awareness of the ecological problems plaguing the world today. Some concentrate on specific issues such as pollution and wildlife preservation; others deal with the general problems. The organizations listed below are consumeroriented groups that are involved in government and private action.

California Coastal Alliance
Chesapeake Bay Foundation
Concern, Inc.
Consumer Action Now (CAN)
Environmental Action
Environmental Defense Fund
Environment Policy Center
League of Conservation Voters
League of Women Voters of the U.S.
Maryland Environmental Trust
National Resources Defense, Council
Sierra Club

PERIODICALS!

Available in school and/public libraries.

Environment. Level — HS, Sa/Issue-M-10 except in June and August.

Available through subscription:

Catalyst for Environmental Quality.

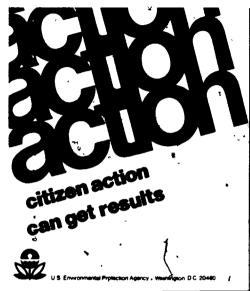
Environmental Affairs.

PUBLICATIONS

The following publications can be produced through the Government Printing Office or are sometimes available free from the individual agencies. The Vertical File in your public library may have copies of some of these publications

Citizen Action Can Get Results. (Booklet) 12 pp GPO Stock #5500-0070, price 30*

Brief case histories of successful citizen campaigns are described in this pamphlet, which also contains suggestions for individual action.



Don't Leave It All To The Experts. (Booklet) 24 pp GPO Stock #5503-0004, price 70\$

A booklet describing fundamental tools and techniques for effective participation in environmental decision making. Included are chapters on lobbying, funding, collecting and disseminating information, participating in public hearings and court proceedings, and picking targets for action

Oregon's Bottle Bill: The First Six Months. (Pamphlet), 14 pp GPO Stock #5502-0011, price 354

An evaluation of Oregon's "Bottle Bill," describing its effectiveness in reducing litter and its economic impact on the container industry, the soft drink industry, the brewing industry, and Oregon's food retailers.

Toward A New Environmental Ethic. (Booklet) 28 pp GPO Stock #5500-0031, price 80¢

This booklet describes what EPA is doing to fulfill the role of environmental watchman and discusses the work of the Agency's various divisions, research centers, and laboratories.

Patterns in Legislation for Environmental Quality.
(Pamphlet) 8 pp. #417, price 20¢.

Order: League of Women Voters of the United States, 1730 M Street, NW., Washington, D.C. 20036

GOVERNMENT ORGANIZATIONS

Living in the Metropolitan Washington Area has numerous advantages, many of which both teachers and students are apt to overlook. Washington, the Nation's Capital, could also be called our Environmental Capital. Every government organization dealing with environmental decisions has its major office in Washington, and many private groups that deal with environmental awareness and protection are located in the city for lobbying purposes. For the teacher, then, living in this area is an indisputable resource. The laborious choice of writing letters to organizations is replaced by the ability to make an easy phone call.

Persistence is required since there is great frustration in having your call transferred and over and over again and/or being put on hold and apparently forgotten; but in the end, the result will be nich educational materials and information for your students

Agricultural Research Service 14th & Independence Avenue, SW. Washington, D.C.

ARS conducts research in the area of environment wiffin the broad range of disciplines associated with agriculture investigates such things as the effects of pesticides on agricultural products and studies soil, water, and air pollution, and possible methods for alleviating pollutions.

The Bureau of Community Environmental Management — HEW 5600 Fishers Lane, Parklawn Building

Rockville, Maryland 20852
This agency is concerned with aspects of the environment as it affects physiological health and human well being and safe and healthful environmental conditions associated with pur homes. The Bureau provides assistance to Federal, state, and local communities or agencies through technical consultation, training, and planning.

The Bureau of Land Management 18th & C Street, NW. ... Washington, D.C.

Classifies manages, and disposes of the public lands and their related resources according to the principles of multiple use management.

The Bureau of Mines 18th & C Street, NW. Washington, D.C., 20240

The Bureau conducts research and administers regulatory programs dealing with environmental problems the are associated with mineral wastes.



47

The Bureau of Outdoor Recreation 18th & C Street, NW.

Washington, D.C. 20240

The Bureau of Outdoor Recreation has government-wide responsibilities in outdoor recreation and is in the mainstream of efforts to enhance and protect the environment.

Community Planning and Management - HUD 451 7th Street, SW. Washington, D.C. 20410

Directs the administration of programs and activities in metropolitan and community planning, land and new communities development, and community facilities as well as environmental planning which includes noise abatement, air pollution, and solid waste disposal, water ... source planning, flood zoning, and land use.

Department of Commerce — National Oceanic and Atmospheric Administration National Environmental Satellite Service 6010 Executive Boulevard Rockville, Maryland 20854

Environmental Data Service Grammax Building 8060 13th Street Silver Spring, Maryland 20910

Department of State Office of Environmental Affairs 2201 C Street, NW.

Washington, D.C. 20520

The Office of Environmental Affairs is concerned with developing and coordinating policy guidelines and programs for global environment cooperation. Coordinates environmental acitivities, ensuring that they are consistent with foreign policy.

Environment and Urban Systems 400 7th Street, SW. Washington, D.C. 20590

Gives highest priority to environmental factors in planning, promoting, and building transportation systems based on the understanding that transportation is always a major land user and a shaper of the physical environment.

National Industrial Pollution Controll Council 14th and Constitution Avenue, NW. -- Room 4845 Washington, D.C. 20230

The Council is comprised of the chief executives of 63 U.S. companies and is organized along industry lines rather than by types of pollution. Identifies principal pollution control and abatement probelms in essentially all areas of industry.

LEGISLATIVE BRANCH

Environmental

Protection Agency

RESPONSIBLE FOR ENVIRONMENTAL

1. Establish and enforce National Standards,

2. Monitor and analyze the environment

3. Conduct research and demonstration

4. Assist state and local governments to

set up and finance their pollution

CONTROL OF RADIATION, SOLID

WASTES, AIR, WATER, PESTICIDES

Primery functions are to:

U.S. GOVERNMENT ENVIRONMENTAL ACTIVITY CHART

Executive Departments

independent Agençies,

JUDICIAL BRANCH

EXECUTIVE BRANCH

projects

control programs

 National Park Service 18th & C Street, NW.

Washington, D.C.

The National Park Service promotes interpretive information, and investigative programs relating to park resources. National Environmental Education Development (NEED) tries to relate the addividual child to his/her own environment; and the National Environmental Study

Areas (NESA) is a nationwide endeavour to tie in with regular school curricula studies designed to develop an awareness and understanding of the total environment.

Soil Conservation Service 14th & Independence Avenue, SW. Washington, D.C. 20259

The Soil Conservation Service is responsible for developing and carrying out a national soil and water conservation, program in cooperation with farmers, ranchers, and developers with community planning

agencies and with other agencies of the government.

United States Forest Service South Airiculture Building 12th & Independence Avenue, SW.

Washington, D.C. 20250 The Forest Service has environmental responsibility in all areas dealing with the conservation and best use of the nation's forest lands. Research is divided into Watershed Management (soil and water), Range Management, Wildlife Management and Outdoor Recreation.

GOVERNMENT AGENCY PERSONNEL

Environmental Protection Agency 401 M Street, SW., Waterside Mall Washington, D.C. 20360

Office of Information Office of Civil Rights and Urban Affairs Office of Education and Manpower Planning Speakers' Bureau (See Field Trip section.) Technology Transfer - Sponsors seminars on the latest wastewater treatment technology

Montgomery County Environmental Protection Departmënt:

Air Pollution Control Housing Code Enforcement Rat Control Refuse Collection Resource Protection Division Rubbish and Weeds Sanitation

Control

Solid Waste Management Wells and Septic Systems . Zoning and Licenses
Research and Monitoring Division

AGENCIES AND OFFICES ENVIRONMENTAL EDUCATION

Johnny Horizon Program -Office of the Secretary Department of the Interior Washington, D.C. 20240 President's Environmental Merit Awards Program

Office of Public Affairs **Environmental Protection Agency** 401 M Street, SW., Waterside Mall Washington, D.C 20460

Space Science Education Project --1100 6th Street, SW. Suite 506 Washington, D.C. 20024 Program Coordinator

Interpretation and Recreation Fish and Wildlife Service Department of the Interior Washington, D.C. 20240

Environmental Education Coordinator Bureau of Land Management Department of the Intenor Washington, D.C. 20240

Public Affairs Office of Environmental Science Natural History Building, Room 418 Smithsonian Institution Washington, D.C. 20560

Environmental and Planning Coordination Bureau of Land Management Department of the Interior Code 220 Washington, D.C. 20240

Office of Education Division of Technology and Environmental Education 400 Maryland Avenue, SW. Washington, D.C. 20202

Education and Publications Branch Soil Conservation Service Department of Agriculture Washington, D.C. 20250

Education Relations Section Soil-Conservation Service Department of Agriculture Washington, D.C 20250

National Park Service Department of the Interior Room 3410. Main Interior Building Washington, D.C 20240

Environmental Education Council on Environmental Quality 722 Jackson Place Washington, D.C. 20006

Division of State Assistance Office of Education Department of Health, Education and Welfare 400 Maryland Avenue, SW R.O B. 3. Room 3012 Washington, DC 20202

División of State Assistance Office of Education Department of Health, Education and Welfare 400 Maryland Avenue, SW Room 3109-B, R.O.B 3 Washington, D.C. 20202

International and Environmental Programs Room 3300, Amtrak Building Smithsonian Institution Washington, D.C 20560

Educational Programs Division/Code FE National Aeronautics and Space Administration. Washington, D.C. 20546

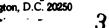
Environmental Protection Agency 401 M Street, SW. Washington, D.C 20460

Director of Educational Programs/FE National Aeronautics and Space Administration Washington, D.C 20456

Office of the Chief of Engineers Department of the Army Forrestal Building, Room 4G065 Washington, D.C. 20314

Conservation Liaison Office Public Affairs Office Office Chief of Engineers Washington, D.C. 20314

National Park Service Department of the Interior Room 3410, Main Interior Building Washington, D.C. 20240



National Park Service (NEED)
Department of the Interior
Room 5125
1100L Street, NW.
Washington, D.C 20240

Office of Information Forest Service Department of Agriculture Washington, D.C. 20202

Threshold, Inc. Room 113-A 1785 Massachusetts Avenue, NW. Washington, D.C. 20036

Select Committee on Education Room 2178, Rayburn H.O.B. Washington, D.C. 20515

Director, Technology Information Staff 1835 K Street NW. Washington, D.C. 20460

Federal Energy Administration Room 307, OPOB 11th & Perinsylvania Avenue, NW. Washington, D.C. 20461

U.S. Fish and Wildlife Service Interpretation and Recreation Program Room 2058, Main Interior Building Washington, D.C. 20240

Associate Director, Chesapeake Bay Center for Environmental Studies Smithsonian Institution Route 4, Box 622 Edgewater, Maryland 21037

Office of Communications Bureau of Outdoor Recreation Room 4423, Main Interior Building Washingto, D.C.20240

FILMS

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Yours for a Change. 1972 — Free loan. The film introduces basic ecological concepts such as the interdependence of all living things and recommends



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY WASHINGTON, D. C. 20440

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NEWSLETTERS

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, "Defenders of Wildlife News," Defenders of Wildlife

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Environmental Action
Environmental Defense Fund
Environment Policy Center;
League of Conservation Voters
League of Women Voters of the US
Maryland Environmental Trust
National Resources Defense Council
Sierra Club

PERIODICALS

Available in school and/or public libraries

Environment. Level — HS, Sa/Issue M 10 except in
June and August

Available through subscription 'Catalyst for Environmental Quality.

Environmental Affairs. Environmental Law Center, Boston College Law Center.

Pátterns in Legislation for Environmental Quality.
8 pp., #417, price 204



40

Audubon Naturalist Society 8940 Jones Mill Road-

Chevy Chase, Maryland 20015

Offers guided tours at "Woodend," the society's 40 acre, estate. Hands-on approach emphasized. Topics ranging from woodland studies to bord life. Rich source of printed materials available.

Botanic Sarrien
Marylanic Venue
(between 1st and 2nd Streets, SW.)
Washington, D.C. 20024

Take a field trip through an actual ramforest. Daily: 9:00 a.m. to 4:00 p.m.◆

Brighton Dam at Tridelphia Lake

Brighton Dam is on the Patuxent River north of Olney and Ashton and has picnic tables and a beautiful natural setting. (Go north on New Hampshire Avenue extended.) Operated by the Washington Suburban Sanifary Commission.

Brookside Nature Center and Brookside Arboretum

Both are located in Wheaton Regional Park which itself has many nature trails. This entire regional park is operated by Maryland-National Capital Park & Planning Commission. Address: 1400 Arcola Avenue. Wheaton.

Cabin John Regional Park

Located near Seven Locks Road off either Tuckerman Lane or Democracy Boulevard, Bethesda. Children can get close up view of animals, and there are hiking-nature trails and picnic areas. Operated by the Maryland-National Capital Park & Planning Commission.

Clearwater Nature Center
Maryland-National Capital Park & Planning Commission

RFD 1, Box 325 Clinton, Marvland 20735

Offers trail hikes, arts and crafts projects, films, and nature exhibits. Teachers should phone to arrange programs for students. Hours and class size vary with different programs.

C&G Canal

This slice of American history winds 184 miles along the Potomac from Georgetown to Cumberland, Maryland. The Canal and its right-of-way is a national historical park operated by the National Park Service. Authentic locks, a natural history museum, and the beauty of the Potomac's Great Falls make it a fine place to visit. The best guide to the history and ecology along the canal is Towpath Guide to the C&O Canal by. Thomas F. Hahn. It leads the retire on a step-by-step journey down the canal and towpath with detailed, knowledgeable, and enthusiastic descriptions. The Guide comes in four sections, each one covering a part of the Canal. Each section costs \$2.50,

with the entire set being \$8.50. Published by American Canal and Transportation Center, 809 Rathton Road, York, Pennsylvania 17403.

Satastin Mountain Park National Park Service U.S. Department of the Interior Thurmont, Maryland 21788

Nature trails are open year-round, 7 days a week, from morning til dark. 'Crafts demonstrations and environmental museum are open one day a week in spring and fall. Reservations must be made a couple of weeks in advance. The museum can receive 210 students every 1½ hours.'

Harper's Ferry, West Virginia

Where 3 states and 2 rivers (Potomac and Shenandoah) converge spectacularly amidst high cliffs. The scene of John Brown's ill-fated 1859 raid, it has been largely restored by the National Park Service. See the historical slide show, and enjoy the old cemetery up in back of the town. Many of the old stone buildings have high water marks from past floods. Almost everything is FREE!

Lathrop E. Smith Environmental Education Center Located off Muncaster Mill Road in Rockville, the Smith Center is headquarters for the MCPS Outdoor Educated Program. On the same site is the Meadowside Nature Center with natural history displays and outdoor nature trails. For information about the MCPS Environmental Education Program, confact Lathrop E. Smith Environmental Education Genter.

Lightship Chesapeake (National Park Service) 1200 Ohio Drive, SW. Washington, D.C. 20242

The decommissioned Coastguard Lightship Chesapeake is being used by the National Park Service as a fully operating floating environmental laboratory. Environmental activities for 6th graders include a program in water content and analysis; a fully operating weather station; different aquatic habitats displayed in the ship's aquarium; a simulated submarine cruise; and navigation and compass orientation. The activities run for one day, from 10:00 a.m. to 2:00 p.m. There is also a high school program with projects for studying specific ecosystems.

NOTE: Lightship Chesapeake is primarily for D.C. elementary students; however, some days are set aside for suburban school classes. Because of the popularity of the program, reservations should be made a year in advance.

Montgomery County Iron — Metal Company 15000 Southlawn Lane . Rockville, Maryland

The company accommodates group tours of 30 to 50 students to see scrap iron crushed and paper and nonferrous metals sorted and reclaimed for recycling. Before going, a group should know the principles of electromagnets Call 2-3 weeks in advance for an appointment. Appropriate for Grades 1-6.

Maryland State Department of Health & Mental Hygiene
Bureau of Air Quality & Noise Control The O'Connor Building 201 West Preston Street Baltimore, Maryland 20201

The air monitoring program (AIRMON) covers the computer system for gathering data, and includes discussion of the monitoring instrumentation. Teachers should call John E. McQuade, head of AIRMON system, to arrange classes. Groups of up to 30 are received at laboratories in Sutland, Cheverly, Silver Spring, and Bethesda from 8:30 to 4:30. Monday through Friday

National Aquarium
Fish & Wildlife, Service
U.S. Department of the Interior
Lower Lobby of Commerce Building
14th Street between Constitution
and E Streets, NW.

Washington, D.C. 20230
More than 2,000 Sacrimens representing almost 350 species of the world can be seen here. Scheduled feeding of fish occurs on Monday, Wednesday, Friday, and weekends. Teaching aids are available. The aquarium is open 9:00 to 5:00, 7 days a week, to groups of up to 100. Teachers should call before bringing classes

¹National Zoological Park (Smithsonian) 3000 Connecticut Avenue, NW. Washington, D.C.

The 200 has developed an Environmental Education Program. Their educator is a naturalist working prime my with 3rd and 4th grade groups. His introductory talk to the "World of Mammals" tour has a strong environmental message.

Oxon Hill Children's Farm (NCPE) 6411 Oxon Hill Road Oxon Hill, Maryland 20021

Typical of area farms at the turn of the century, this is a working farm with crops, animals, and equipment. Farming demonstrations are held throughout the year Workers are dressed in appropriate farm clothing. (And the children probably should be also.)



Pierce Mill

The old Mill is in Rock Creek Park at the intersection of Park Road and Beach Drive, NW, Washington, D.C. Students learn how energy sources and technology have changed since the early 1800's by watching an old waterwheel grain mill in operation. Visiting days are Wednesday through Sunday.

Rock Creek Nature Center

This nature center has a natural history museum, planetarium, and outdoor trails. It's located at Military and Glover Roads, NW, Washington, DC and is operated by the U.S. Park Service.

Rockville Water Filtration Plan Sandy Landing Road Rockville

Call GA4-8000, ext. 242 to make an appointment for a guided tour which highlights water filtration, purification techniques, and laboratory testing for impurities

Smithsonian Institution
Museum of Natural History
10th Street and Constitution Avenue, NW.
Washington, D.C.

Museum of History and Technology 12th and 14th Streets and Constitution Avenue, NW. *

Washington, D.C. The Smithsonian remains one of the best educational bargains in town. Both museums have occassional displays and exhibits that could be usedful for environmental education. (Make appointments at least 3 weeks in advance.) Particularly good is the exhibit titled Ît All Depends at the Museum of Natural History. It illustrates how humans create new ecological balance.

Sugarloaf Mountain Dickerson, Maryland

Only about 1300 feet high, Sugarloaf hardly dominates the northwestern Montgomery County skyline; but it is me a beautiful natural setting and is well supplied with hiking trails, scenic overlooks, and picnic sites. Drive halfway up and then climb to the top. (Or if you're energetic, park at the bottom, and walk all the way to the top.) It is owned by Stronghold, Inc., a non-profit corporation dedicated to "teaching an appreciation of natural beauty." Highlights include a great variety of trees and strubs, and a grantee northwestern face. Open all year, 8:00 a.m. to sunget. There are no Rangers nor tours, so you're on your own. It's best for interested teachers who have never been there to make a reconsissance trip.

Theodore Roosevelt Island Washington, D.C.

A Natural Science Wildlife preserve with foot trails and walks. Call National Capital Parks to arrange a special tour conducted by Park Rangers. A National Environmental Study Area (NESA) has been instituted by the National Park Service on the island. Its mission is to communicate with grade school students on the need for environmental awareness. Two-hour teacher workshops conducted by Park Rangers may be arranged on the island or on the school grounds. With the techniques gained from the workshops, teachers may then conduct a nature study with their classes at their own convenience.

Turkey Run Farm
Turkey Run Park
(Off George Washington Parkway)
McLean, Virginia

It's an actual colonial era subsistence farm operated by the National Park Service.

"A poor man's Mt. Vernon Most southern colonial Antericans lived on small farms like this, rather than in opulent, plantation style mansions" — Dave Harrison Turkey Run under up to 30 students. It is open 10 00 a m. to 4:30 p. and bednesday through Sunday Be sure to call at least to be weeks ahead of time to arrange a large group guided four. Phone National Capital Parks

U.S. Department of the Interior Museum C Street between 18th

and 19th Streets, NW. Washington, D.C. 20240

Tours emphasize conservation and natural resources Students see pictures and models of dams, farm land, irrigation projects, and varieties of wild life. Call at least two weeks in advance for reservations

HOW TO GET TO SUGARLOAF CORS.

ROUTE 270 + NORTH TO FREDERICK
MCFS COMUS

U.S. Environmental Protection Agency 401 M Street, SW., Waterside Mall Washington, D.C.

Call to arrange a one-hour tour of exhibits describing the causes of pollution, the growth of pollution in the U.S., technology available for pollution control, and actions underway to abate pollution

There is also a Speaker's Bureau, which will supply your school with a speaker and film to meet your particular interest.

Washington Suburban Sanitary Commission Potomac Filtration Plant

A 45-minute tour of the filtration plant is given for students in Grades 5-12. Films and speakers available for various age groups Call to get more information or to arrange for a tour (two weeks notice required)



Air:Pollution Control Association 4400 Fifth Avenue

Pittsburgh, Pennsylvania 15213

Nonprofit technical and educational organization dedicated to advancing the science and art of pollution control.

America the Beautiful Fund of the National Area Council 1501 H Street, NW. Washington, D.C. 20005

Gives recognition, technical support, and grants to private citizens and community groups to initiate local action projects improving the quality of the environment including design, land preservation and planning, arts, historical and cultural preservation, and communications.

American Conservation Association 30 Rockefeller Plaza New York, N.Y. 10020

Privately supported non-membership educational and scientific organization dedicated to the advancement of understanding of conservation and to the preservation and development of natural resources for public use.

Appalachian Trail Conference Box 236

Harpers Ferry, West Virginia 25425

Coordinates volunteer maintenance of the 2,040 naile Appalachian Trail from Maine to Georgia. Also provides publications and other guidance to groups interested in establishing and maintaining trail systems.

Association for Environmental and Outdoor Education 2429 Walnut Boulevard Walnut Creek, California 94591

Dedicated to awakening an interest in environmental and outdoor education; and to the encouragement, sponsorship, and conduct of workshops and other meetings concerned with environmental and outdoor education.

Association of State and Interstate Water Pollution Control Administrators C/o NEIWPCC

607 Boylston Street

Boston, Massachusetts 02116 -

Administrators of state and interstate governmental agencies legally responsible for prevention, abatement, and control of water pollution.

Americati Forest Institute 1619 Massachusetts Avenue, NW. Washington, D.C. 20036

Promotes the advancement of intelligent management of forests, soil, water, wildlife, and other natural resources.

The American Forest Institute publishes the following items, which can be ordered directly from the AFI:

Trees Want You (Mins-Course)

Who Owns the American Forest? Where Is It?

Outlook for Meeting Future Timber Demands - free

Clearcutting on Federal Timberlands (Report of Public Land Subcommittee) — free

Indian Valley Classroom Game - free

Recycling Questions and Answers (Leaflet) - free".

AFI Casette Programs and Sound Filmstrips — varying topics and costs



WORK WE'VE DONE

COMMUNITY COMMUNICATIONS

ANACOPTIA NEIGEBORBOOD MÜBEUM, SMITERONIAN DISTITUTION



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ASSOCIATES FOR RENEWAL IN EDUCATION DAY CARE PROJECT

A coordinated information package of day care call training inspirate designed for A. H. E. under a grant from H. E. W. The eight overload to the modern agreed to the condition of the project vary designed through a participation processes with sendorer out the said of the Adriancy Lagrange Exchange of reflect their processed out control of the condition of the condition of the control of the condition of the c

ROSEBUD INDIAN RESERVATION COMMUNITY SCHOOL BOARD, SOUTH DAKOTA



Planning a community process to instands a comprovinceive program of community development, admentional planning and actual inclusion programs ming for it. Praceris bullen Geband. This proposi includes planning, found-raising, community conmunitations, and local workshaps and programs design.

estey hall, shaw university Balenge, N. C.

> A comprehensive design, planning, odocations) and architectural programming and lond raising offert to main translateners bestding both a cital structure and a telempoint for aniversity/city/community retelement.

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Attic and Cellar Studios Ron and Marly Thomas 1346 Connecticut Avenue, NW., Room 913 Washington, D.C. 20036

Two highly creative environmental consultants who do research design materials and plan programs in elementary environmental, education utilizing the arts as a vehicle for learning. They emphasize an interdisciplinary approach to environmental education involving the natural and cultural environment Note Attic and Cellar Studios is a private business, so be sure to inquire about rates.

California Coastal Alliance P.O. Box 4161 Woodside, California 94062

Founded to facilitate passage of coastal management protection law in California, now acts as advocate for general land use reform Supplies bibliographical and reference materials



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Central Atlantic Environment Service 1717 Massachusetts Avenue, NW. Washington, D.C. 20036

Non-profit organization committed to providing full and accurate information on environmental issues and dieseminating this information to citizens, civic groups, and business and government leaders in the Virginia, Maryland, and D.C. area.

Chesapeake Bay Foundation, Inc. P.O. Box 1709, 17 State Circle Annapolis, Maryland 21404

A non-profit education and scientific membership organization established to promote the environmental welfare of the Chesapeake Bay and its tidal tributaries.

Citizens for Clean Air 572 Madison Avenue New York, N.Y. 10022

Seeks to increase public awareness of the hazards of air pollution and the technological and legal tools available for control of air pollution. Supplies references for students and program suggestions for teachers.

Committee for Environmental Information 438 North Skinker Boulevard St. Louis, Montana \$3130

An organization of scientists and others in the St, Louis area who are concerned with dissemination of scientific information to the general public Writes environmental curricula for high schools. Reviews environmental claims of advertisers.

Concern, Inc., 2233 Wisconsin Avenue, NW. Washington, D.C., 20007

Seeks to educate the American consumer to exercise selective buying practices in the market and to persuade business and industry of the emerging market for products which are not environmentally harmful.



CONCERN

Inc

CONCERN'S DETERGENT POSITION

Neither the soap and detergent industry nor the Eederal government have adequately clarified the issues concerning laundry detargents. There are three main consumer issues, environmental, individual safety and effective performance.

In the <u>environment</u>, phosphete based detergents contribute to the pollution of many lakes and rivers. The five billion pounds of detergents produced a year contain two billion pounds of phosphate compounds. Sewage treatment as recommended by industry and government cannot solve this problem for many years.

Phosphate in detergents acts, primarily, as a water softener. Many sections of the country do not require water softening agents at all. Consumer Report, October, 1971, states that, in tests based on an area close to the national average in water hardness, one-half the recommended usage of Tide XK resulted in good-to-very-good cleaning-effectiveness. One-eighth the recommended dosage gave results from fair-to-good.

Detergent manufacturers should substantially reduce the phosphate content in detergents as quickly as possible.

Many household products carry warning labels in terms of <u>individual safety</u>. The products should, of course, be kept out of the reach of small children. Some-phosphate and non-phosphate detergents carry such warnings. Read labels on all products you use in the home

Effective cleaning should mean that clothes are free of germs and visible soiling. It does not mean "whiter than white" or "dazzling." Soap, low phosphate, or non-phosphate products clean clothes quite effectively. When using soap in hard water areas, washing soda can be added as a water softener.

The public deserves reliable and substantive information about the total detergent question. Concern, Inc. urges the soap and detergent industry to label all major components ori product containers. Concern, Inc. also urges the Federal government to fully inform the public of the results of its research on the environmental and health aspects of laundry products.

For product labeling, consumers should write to both manufacturers of soap and detergent products and The Federal Trade Commission, Assistant Director for Industry Guidance, Bureau of Consumer Protection, Washington, D.C.

Citizens should write government agencies requesting comprehensive information and analyses about the government's tests and studies relating to the health and environmental aspects of laundry products. One should also request a thorough classification about the use of phosphate detergents, low phosphate and non-phosphate detergents.

AND ASSOCIATIONS

Colgete Palmolive 300 Park Avenue New York, New York 10022

New Yerk, New York 10022 Lever Brothers, Inc.

Lever Brothers, Inc 390 Park Avenue New York, New York 10022 Procter and Gamble 301 East Sixth Street Cogninate, Ohio 45202 Soop and Determent

Association 485 Medison Avenue New York, New York 10022

Environmental Protection Agency 401 M Street, S W Washington, D C 20460

Food and Drug Administration 5600 Fisher's Lane Parklawn Building, Room 14-71 Rockville, Maryland 20852

ncy Council on Environmental Quality

GOVERNMENT AGENCIES

Council on Environmental Qualit 722 Jackson Place, N W Washington, D.C. 20006

Dr Jesse L. Steinfeld, Surgeon General U.S. Public Heelth Service Department of Heelth, Education, and Wetfare Washington, D.C. 20201,

CONCERN'S RECOMMENDATIONS

USE:

- Sosp and washing soda.
- Low phosphate or non-phosphate detergents.

READ:

- Labels for phosphorus contents. (Note: The phosphate compound is usually 3-5 times the elemental phosphorus content),
- Labels warning of potential health hazards.

Printed on recycled paper

Fall, 1971



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The Conservation Foundation , 1717 Massachusetts Avenue, NW. Washington, D.C. 20036

Conducts research, education, and information programs to develop knowledge, improve techniques, and stimulate public and private decision making to improve the quality of the environment.

Consumer Action Now (CAN) 30 E. 68th Street

New York, N.Y. 10021

Objective is to encourage people to conserve rather than to consume their environment.

Crusade for a Cleaner Environment 2000 L Street, NW., Suite 520 Washington, D.C. 20036

Translates existing public sentiment against litter and pollution into effective citizen action to promote returnable containers.

Defenders of Wildlife 2000 N Street, NW. Washington, D.C. 20036

A national non-profit educational organization dedicated to the preservation of all forms of wildlife.

Ecology Forum 124 E. 39th Street New York, N.Y. 10016

Composed of universities, government agencies, conservation groups, and persons interested in environmental information for research legislation, complicance with laws, and regulations or action. Main goal is to "facilitate access to environmental information by locating it, abstracting it, and storing it in a computerized data bank from which it may be retrieved for immediate use. Operates mainly through Environment Information Center."

Environic Foundation International P.O. Box 88

Principal purpose of the Foundation lies in the development of educational programs, research, and practical demonstrations in various realms of environmental comprehension and design; e.g., architecture, urban

ecology, regional planning, landscape planning, subterrantean accommodation.

Notre Dame, Indiana 46556

Environmental Action 1346 Connecticut Avenue, NW., Suite 731 Washington, D.C. 20036

National political lobby organization with prime focus on energy, solid waste, air and water pollution, transportation, nuclear power, and workplace and urban environment.

Environmental Defense Fund 162 Old Town Road East Setauket, N.Y. 11733

National environmental organization operating as a team of lawyers and scientists combining their skills to end environmental degradation through legal action

Environmental Education Planning Committee for the District of Columbia 1424 16th Street, NW., Suite 303 Washington, D.C. 20036

The Committee has developed a list of recommendations for environmental planning in D.C. and a D.C. environmental resource directory, and has established a teacher environmental resource center.

Environment Policy Center 324 C Street, SE. Washington, D.C. 20008

Works to influence Congressional and Executive branch decisions about national environmental issues and to develop information for public participation, and serves as a Washington base for local and regional citizens groups.

Environmental Technology Seminar P.O. Box 391

Bethpage, N.Y. 11714

An organization of scientists and engineers for a cleaner environment providing for the exchange of technical facts and ideas. Conducts public lectures and debates; provides witnesses and speakers for public hearings and environmental groups; maintains library of reports and clippings on environmental technology.

Friends of the Earth 529 Commercial Street San Francisco, California 94111

Committed to the preservation, restoration, and rational use of the earth. Chapters throughout the world

The Garden Clubs of America 596 Madison Avenue New York, N.Y. 10022

A national non-profit organization dedicated to conservation of natural resources, protection of the environment, control of pollution, and billboard and sign control. Publishes an excellent educational packet entitled *The* World Around You.

International Association for Pollution Control . 1625 Eye Street, NW., Suite 906 · Washington, D.C. 20006

Members can be any individual institution, governmental group, business, and corporation having an interest in pollution control and conservation. Conducts educational programs and research, compiles statistics, and collects factual data.

International Institute for Environmental Affairs 1225 19th Street, NW. Washington, D.C. 20036

Clearing house for ideas, information, and analyses of the central challenges and problems bearing on ecological relationships.

Interstate Commission on the Potomac River Basin #814 East-West Towers 4350 East-West Highway Bethesda, Maryland 20014

Izaak Walton League of America 1800 N. Kent Street, Suite 806 Arlington, Virginia 22209 and Maryland State Division of IWLA

6700 Needwood Road Derwood, Maryland 20855

Promotes means and opportunities for educating the public to conserve, maintain, protect, and restore the soil, forest, water, and other natural resources of the U.S.

League of Conservation Voters 620 C Street, SE. Washington, D.C. 20003

A nonpartisan campaign that supports those legislators who are working hardest to protect the environment. Two biennial booklets are published. "How Your Congressman Voted on Critical Environmental Issues" and "How Your Senator Voted on Critical Environmental Issues."

League of Women Voters of the United States 1730 M Street, NW. Washington, D.C. 20036

Nonpartisan organization in all 50 states working to promote political responsibility through informed participatio. Principle issues for political action are water and air quality and solid waste management

Maryland Environmental Trust 8 E. Mulberry Street Baltimore, Maryland 21202

Formed to conserve, improve, stimulate, and perpetuate the aesthetic, natural, health and welfare, scenic, and cultural quality of Maryland's environment.

National Council of the Paper Industry for Air and Stream Improvement 260 Madison Avenue New York, N.Y. 10016

Conducts research on stream pollution, air pollution, and waste disposal problems for the pulp and paper industry.



National Foundation for Environmental Control

151 Tremont Street, Boston Massachinestti

Boston, Massachiasetts 02111

Aim is to encourage communication between those who generate the information and the user. Maintains a library of 2,000 volumes and a data bank on environmental law, science, engineering, and management.

National Wildlife Federation 1412 Styteenth Street, NW. Washington, D.C. 20036

Creates and encourages an awareness among citizens for wase and proper management of those resources of the earth upon which mankind depends: soils, plant life, and wildlife. NWF has also developed a series of 24 Ensironmental Discovery Units K-12 which develop science projects as they relate to nature. Each unit is a teacher's guide which is used to show students that ecology is everywhere. NWF publishes several excellent periodicals, the largest being National Wildlife Others available directly from the Federation are Wildlife Conservation, "Conservation News," and the Conservation Directory (see spotlight below).

Natural Resources Defense Council (NRDC)

15 W. 44th Street New York, N.Y. 10036

An organization of lawyers, scientists, and private citizens who seek to protect natural resources by working to increase public understanding of the means by which the law may be used.)

The Nature Conservancy 1800 N. Kent Street, Suite 800 Arlington, Virginia 22209

Nonprofit membership corporation dedicated to preservation of natural areas for present and future generations. Cooperates with college, university, public, and private conservations to acquire lands for scientific and education purposes.

Planned Parenthood-World Population 515 Madison Avenue

New York, N.Y. 10022

Population Reference Bureau 1755 Massachusetts Avenue, NW.

Washington, D.C. 20036
Gathers, interprets, publishes, and distributes information concerning populating and related subjects on a nonprofit, scientific, and educational basis for the general public and formal education. Consults with other groups in the U.S. and abroad and operates an information service, library, and international program with emphasis on Latin America.

Public Interest Research Group 2000 P Street, NW., Room 511

Washington, D.C. 20036

A nonprofit public interest law firm engaged in research, investigation, and litigation of a variety of issues of interest to the public: government and corporate responsibility, environmental and conservation problems, and consumer affairs. Ralph Nader is the director.

Rachel Carson Trust for the Living Environment 8940 Jones Mill Road Washington, D.C. 20015

Furthers the philosophy of Rachel Carson by developing through research and education an awareness of the problems of environmental contamination and to serve as a clearinghouse for environmental information.

Recycling Revolution Cooperative 14 Park Avenue Somerville, Massachusetts 02144

Recycles computer and office paper, conducts education programs and produces educational materials.

Sierra Club 1050 Mills Tower San Francisco, California 94104 or

Washington Chapter 324 C Street, NE. Washington, D.C.

An organization of people who feel the need to know more of nature, and know that this need is basic to human beings. Undertakes and publishes scientific and educational studies concerning all aspects of man's environment and natural ecosystems. Works on urgent campaigns to save threatened areas and wildlife; conducts annual environment workshops for educatoru. Local chapters schedule talks and sponsor films and exhibits.

Society for Environmental Stabilization Box 252

Favetteville, Arizona 72701

Individuals dedicated to instructing and involving citizenry in environmental education

Tundra Ecosystem Research Program c/ Tundra Blome Center University of Alaska Fairbanks, Alaska 99701

General aims of the research are to learn enough about the tundra ecosystem to be able to predict what will happen to it under changing conditions

Water Poliution Control Federation 3900 Wisconsin Avenue

Washington, D.C. 20016

Federation of professional environmental officials whose goal is to advance the practical knowledge concerning the nature, collection, treatment, and disposal of

domestic and industrial waste waters, and the design and construction of facilities for these programs.

The Wilderness Society 729 15th Street, NW. Washington, D.C. 20005

National conservation organization formed to secure preservation of wilderness, to carry on an educational program concerning the value of wilderness and how it may best be used and preserved in the public interest, to make and encourage scientific studies of wilderness; and to mobilize cooperation in resisting its invasion

Zero Population Growth 1346 Connecticut Avenue, NW. Washington, D.C. 20036





Air Pollution Notes
College of Agriculture and
Environmental Science
Rutgers University
New Brunswick, New Jersey 08903

AEOE Newsletter
Association for Environmenta
and Outdoor Education
2423 Walnut Boulevard
Walnut Creek, California 94591

The Best Economically and Technologically Feasible Newsletter Public Information Office Minnesota Pollution Control Agency 1935 W. County Road, B2 Roseville, Minnesota 55113

Catalyst for Environmental Quality 274 Madison Avenue New York, New York 10016

Center for Environmental Study News Center for Environmental Study 1447 Lake Drive, SE. Grand Rapids, Michigan 49506

Control Atlantic Environment News Central Atlantic Environment Service 1717 Massachusetts Avenue, NW. Washington, D.C. 20036

C-F Letter
The Conservation Foundation
1717 Massachusetts Avenue, NW.
Washington, D.C. 20036

The Chesapeake Bay Foundation The Chesapeake Bay Foundation Prince George & East Streets Box 1709 Annapolis, Maryland 21404

Colorado Master Plan for Environmental Education Neweletter Center for Research and Education 2010 E. 17th Avenue Denver, Colorado 80206

Conservation News National Wildife Federation 1412 16th Street, NW. Washington, D.C. 20036

Conservation Report National Wildlife Federation 1412 16th Street, NW. Washington, D.C. 20036

(Note: Published only during sessions of Congress.)

Defenders of Wildlife News Defenders of Wildlife 2000 N Street, NW. Washington, D.C. 20036

Earth, I Care Newsletter Earth Awareness Foundation 1730 NASA Boulevard, Suite 209 Houston, Texas 77058

Earthworm News Recycling Revolution Cooperative 14 Park Avenue Somerville, Massachusetts 02144

Ecolog
Environmental Science Center
5400 Glenwood Avenue
Minneapolis, Minnesota 55422

The Ecological Society of America Bulletin Box 6694 College Station Durham, North Carolina 27708

Environment Action Bulletin Rodale Press 33 E. Minor Street Emmaus, Pennsylvania 18049

Environment Facts
Published by Environmental
Protection Agency
Office of Public Affairs
401 M Street, SW., Waterside Mall
Washington, D.C., 20460

Environment News
Published by Environmental
Protection Agency
Office of Public Affairs
401 M Street, SW., Wasterside Mall
Washington, D.C. 20460

Environment Reporter Bureau of National Affairs, Inc. 1231 25th Street, NW. Washington, D.C. 20037

(Note: Past issues put together in notebook form are available at the Rockville branch of the Montgomery County Public Libragy.)

Environmental Quality Bulletin Public Relations Department American Iron and Steel Institute 1000 16th Street, NW. Washington, D.C. 20036 Environmental Vistas
Forest Service
U.S. Department of Agriculture
Milwaukee, Wisconsin 53203

EPA Citizens' Bulletin U.S. Environmental Protection Agency Office of Public Affairs 401 M Street, SW., Watershid Mall Washington, D C. 20460

Forum International Association for Pollution Control 1625 Eye Street, NW., Suite 906 Washington, D.C. 20006

The Green Scene
National Capital Parks
National Park Service
U.S. Department of the Interior
Washington, D.C.

Highlights
Water Pollution Control Federation
3900 Wisconsin Avenue
Washington, D.C. 9016

IRLWR Newsletter
Institute for Research on Land
and Water Resources
Penn State University
University Park, Pennsylvania 16802

Interchange
Population Reference Bureau
1755 Massachusetts Avenue, NW
Washington, D.C. 20036

Investigator Institute for Environmental Education 8911 Euclid Avenue Cleveland, Ohio 44106

KIOSK Office of Public Affairs National Capital Parks 1100 Ohio Drive, SW. Washington, D.C. 20242

Litter Bits of News & Facts, Crusade for a Cleaner Environment 2000 L Street, NW., Suite 520 Washington, D.C. 20036

The Living Wilderness The Wilderness Society 729 15th Street, NW Washington, D.G. 20005



Man and Resources
Canadian Council of Resources
and Environment Ministers
1170 Beaver Half Square
Montreel 111, PQ, Canada

The Mother Earth News P.O. Box 38 Madison, Ohio 44057

National News Report, Sierra Club 1050 Mills Tower San Francisco, California 94104

The Náture Conservancy News The Nature Conservancy 1800 N. Kent Street, Suite 800 Arlington, Virginia 22209

Reweletter
Métropolitan Washington Coalition
for Cluen Air, Iric.
1714 Maisachusetts Avenue, NW.
Washington, D.C. 20036

Not Man Apart ()
Friends of the Earth
529 Commercial Street
San Francisco, California 94911

The ORV (Off Road Vehicle) Monitor Environment Defense Fund 2728 Durant Avenue Berkeley, California 94704 \$6 per year, bimonthly

Outdoor News Bulletin Wildlife Management Institute 709 Wire Building Washington, D.C. 20006

Population Bulletin Population Reference Bureau 1755 Massachusetts Avenue, NW. Washington, D.C. 20036

Potomac Basin Reporter Interstate Commission on the Potomac River Basin 4350 East-West Highway Betheeda, Marviand

Ranger Rick's Nature Magazine 158 Walnut Street Philadelphia, Pennsylvania 19102

Sierra Club Bulletin Sierra Club 1050 Mile Tower Sen Francisco, California 94104 Watch It Wilderness Watch P.O. Box 3184 Green Bay, Wisconsin 54303

Wilderness Report Wilderness Society 729 15th Street, NW. Washington, D.C. 20005

World Environment Newsletter International Institute for Environmental Affairs 1225 19th Street, NW. Washington, D.C. 20036



SCHOOL AND LIBRARY PERIODICAL LIST

American Forests

Conservation views of the American Forestry Association.

American City Magazine

Deals with management and engineering of municipal and government services.

Audubon

Deserves its reputation as the most beautiful nature magazine in the world.

Chesapeake Bay

Chesapeake Bay Communications 130 Severn Avenue

Annapolis, Maryland 21403

City

Authoritative articles on urban affairs and needs of the cities.

Environment*

Published by the Scientists Institute (of Public Information. The magazine deals with all types of environmental problems and is considered the leading mass circulation magazine in the field.

Environmental Science and Technology

A broad-based magazine interested in the improvement of the environment — especially water, air, and waste chemistry

The Journal of Environmental Education Dembar Educational Research Services, Inc. Box 1605

Madison, Wisconsin 53701

The Living Wilderness

Maryland Conservationist

An excellent conservation magazine with the State of Maryland as its primary focus

National Wildlife

Ranger Rick's Nature Magazine

Telegis

68

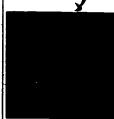
Earth Awareness Foundation 1730 NASA Boulevard, Suite 209 Houston, Texas 77058

Weatherwise

A superior magazine featuring articles on the science of meteorology, climatology, and weather

EI MONMEN

Volume 17, Number Morch 1975



A recent survey of environmental educatory-entried out by Peter Sandman and has colleagues at the School of Natural Plassangers, University of Michi, gan, provides an opportunity to look at the attitudes of environmental

In June 1974, the School of Natural Resources (with funding from the Divi sion of Technology and Environmental Education, U.S Office of Education) sponsored a working conference en titled Emerging Issued in Environmental Education. In preparation for that conference, a questionnuire was mailed to about 350 environmental educators - those who had responded to an earlier questionnaire, plus all those who had received a grant from the Office of Environmental Education during the previous two years, 199 questionnaires were returned (Women were a clear manority of the respond ents. probably because of the institu tionalized sexion of the environmental movement rather than a brased

The educators were asked to agree or desagrae with 45 statements conpersong many aspects of environmental education, and then to evaluate the importance of each of the usues. There is not enough space here to pursue an detail the method of analysis or the statements that were evaluated, but in general, the 45 statements seemed carefully constructed, and the overall ach seemed sound Results of the survey provide some indication of the political and economic views, educational philosophy, and values of envirbageental educators. Only one of the many issues_analyzed will be discussed here interested readers are encouraged to obtain the full study from Sandman at the University of Michaean, Adin Arbor The proceedings will also soon be published by the Office of Education, Division of Technology and En vironmental Education

The responses to the questionnaire indicated quite clearly that environmental educators believe that it is important for educators and students to become involved in community issues and to help solve local problems. They also Yeel that community members of all kinds should be involved in the design and implementation of environ mental education programs. These, and other responses, show that the participating educators believe environmental education should be a grassroot, socially relevant, and effire experience, unlike traditional education. But while the respondents do clearly hold these views, they just as clearly dasagree on

"whether the goals of such anvolvement require radical change in the American economic system, and whether environmental improvement will be to the disadvantage of certain groups whose hardshap must be lessened."

Wilderness Camping

An ecology minded magazine featuring hiking, camping, and survival techniques

The following periodicals are not available in the school or public libraries, but are not outrageously expensive to subscribe to and are all worthwhile

Backpacker. All about the hiking world for the hiker 28 W. 44th Street
New York, New York 10036

Catalyst for Environmental Quality 274 Madison Avenue, Suite 904 New York, New York 10016

The Conservationist

New York State Conservation Department State Campus Albany, New York 12226 Clean Air
National Society for Clean Air
136 North Street
Brighton, BNI, IRG, England

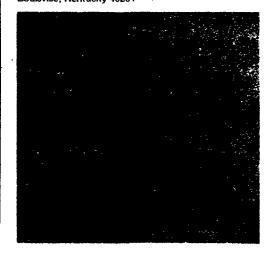
Environmental Affairs
Environmental Law Center

Boston College Law School Brighton, Massachusetts 02135

Natural Parks and Conservation Magazine

National Parks and Conservation Association 1701 18th Street, NW Washington, D.C. 20009

Landscape Architecture 1190 E. Boradway Louisville, Kentucky 40204





How to Use ERIC to Retrieve Instructional Guides

The Educational Resources Information Center (ERIC) is a national information system containing thousands of educational documents. Many of these documents (including learning units, reports, theses, etc.) are available on microfiche at the Educational Services Center.

Listed below are brief summaries of environmental education units, most of which are contained in the ERIC system. Often "the complete units include pictures, maps, charts, objectives, and other information useful to the classroom teacher. A teacher may request reproduction of any of the units in their entirety by contacting the Educational Services. Center Copies are free of mexpensive.

All Around You, An Environmental Study Guide.
Sold by U.S. Government Office, Stock #2411-00043
A 177 page teacher workbook with activities. Published by U.S. Department of the Interior, Bureau of Land Management.

Ecological Investigations, Curriculum Guide. #ED 079099

A 194-page guide, published by North Carolina State Department of Public Instruction for 8th and 9th graders Activities deal with the following concepts. "Interrelationships," "Nature's Law of Supply and Demand," "To Each His Own," "The Only Thing Constant Is Change," and "Adversity and Diversity"

Water Quality Control, Cyrriculum Guide. #ED 079100

A 209-page published by North Carolina State Department of Public Instruction for 8th and 9th graders Students study how water is used, contaminated, and treated. Culminates in a study of a local water, quality problem.

Social Studies: Eco-Politics. ED 059958
Dade County (Florida) Public Schools, 40 pages. For

Grades 10 through 12 Includes content outline and materials for units on ecological principles; environmental problems, economics of pollution, government and pollution; industry and pollution, pollution control; individual action, and future implications of environmental policy.

Social Studies: Cities in Crisis. *ED 061126 Published by Dade County (Florida) Public Schools, this 38 page guide is for Grades 10 through 12 Content 1) History of American urban development, 2) Environmental, sociological, economic, and political problems of cities, 3) Legislation and housing; 4) Prejudice and discrimination; 5) Local politics; 6) The need and effects of zoning; afid 7) Developing a city plan The Development of a Subdivision Within the Parkway School District. Environmental Ecological Education Project. Revised. #ED 098068

Designed for Parkway School District, Chesterfield, Missouri junior high students, but "could be adapted for use in any suburban area where subdivisions exist." 160 pages. Focuses on the factors involved in subdivision design and planning.

Meet Me In St. Louis, Louie, But Leave Your Car At Home. (A Unit in Transportation) Environmental Ecological Education Project Revised. *ED 098069 Published by Parkway School District, Chesterfield, Missouri for students in that district, but "could be adapted for use in other junior high school settings". Topics include types of transportation, automobile pollution, and effects of the increasing auto use on the American life style. 192 pages

Population. Environmental Ecological Education Project #ED 098072

This 253-page guide (activities included) was published for high school by Parkway School District, Chesterfield, Missouri Topics: Effects of a growing population, Urbanization, Family Structures, Family Planning, Consumption, Environmental Decay; and Controlling the Environment

This Land is Your Land. The Problem of Land Utilization. *ED 099210

An 82-page guide published by Parkway School District, Chesterfield, Missouri, for 7th graders Examines factors involved in the utilization of land in St. Louis County, Missouri

Man and Nature — A Literature Course. Project Reports, Vol. 1, The Rachel Carson Project. #BD 099186.

Corvallis School District 509J, Oregon This guide focuses on English Literature by emphasizing the environment through Edward Abbey's Desert Solitaire

Environmental Studies in the Physical Sciences. Project Reports, Vol. 3, The Rachel Carson Project. #ED 099188.

Corvalis School District 509J, Oregon 77 pages Environmentally-related activities implemented in high school physics and chemistry courses forms of energy, first law of thermo-dynamics; environmental impact of energy, literature research, model building, field research, and water quality investigation.

Case, Studies of Conservation "Battles." Project Reports, Vol. 5, The Rachel Carson Project. *ED 099190

Corvallis School District 509J, Oregon 106 pages. Two case studies of conservation organizations and their environmental campaigns. Includes activities

Environmental Studies in Nine Courses at Crescent Valley High. Project Reports, Vol. 6, The Rachel Carson Project. #ED 099191

Developed by Corvallis School District 509J, Oregon 75 pages Contains units and activities on environmental education that can be used in high school courses on psychology, typing, architecture, foreign languages, algebra, world studies, and home economics

A Curriculum Activities Guide to Solid Waste and Environmental Studies. #ED 080348

A 312-page guide from the Institute for Environmental Education, Cleveland, Ohio. Students observe and collect and evaluate data on solid waste problems in their community

A Curriculum Activities Guide to Population and Environmental Studies, #ED 080349

A 197-page guide from the Institute for Environmental education in Cleveland, Ohio Population and the environment is treated from the aspects of economics, politics, sociology, science, technology, aesthetics, and law

A Curriculum Activities Guide to Water Quality Equipment and Environmental Studies. #ED 080361

A 182-page guide produced by the Institute for Environmental Education, Cleveland, Ohio Construction plans for 23 pieces of water quality testing equipment-enable students to build their own tools and then investigate physical, chemical, micro- and macrobiological factors of water

A Curriculum Activities Guide to Birds, Bugs, Dogs, and Weather and Environmental Studies. Vol 5. Second Edition. #ED 093619

This 159-page guide was prepared by the Institute for Environmental Education, Cleveland, Ohio Three levels of activities "awareness" concerns, "transitional" activities directed toward real community concerns, "operational" activities which are integrated with community action

A Curriculum Activities Guide to In-depth Environmental Studies. *ED 083004

Published by the Institute for Environmental Education, Cleveland, Ohio Students collect and evaluate environmental data and propose community action Topics investigated: birds, weather, ferns, air quality, and vegetation and weeds

Project Q.U.E.S.T. (Quality Urban Environmental Studies Training). *ED 099240

A 180-page guide published by Brockton (Massachusetts) Public Schools for high school Contains mathe matics, science, and social studies activities for studying urban environmental problems.



Environmental Studies. The Construction of An "A" Level Sullabus. #ED 070635

A 157-page syllabus published in London by the National Foundation for Educational Research in England and Wales for advanced junior high students. Four sections processes and systems of the natural environment, the ecosystem, interaction of man and the environment, and environmental conflicts and planning Multidisciplinary

Environmental Education Exercises, Junior High 7-8. #ED 081614, 130 pages, 62 exercises

Environmental Education Exercises, Senior High 9-12. #ED 801615. 49 pages, 34 exercises.

Both of these guides were developed by Bourbon County Schools, Pans, Kentucky The junior high exercises are directed toward art. language arts, science, social studies, and special education. Senior high activities can be used in biology, language arts, science, and social studies courses.

Student Action for the Valley Environment (SAVE) #ED 081601

A 159-page guide produced by the Arizona State Department of Education for high school students Primarily a "simulation program concerned with a serious problem of today — the survival of life in the cities Students propose alternate ways of structuning a new

Multidisciplinary Activities for Environmental Learning, #ED 093589

A 242-page guide published by Genesee(Intermediate School District, Flint, Michigan Multidisciplinary activities from K-12

Environmental and Natural Resources Occupations in Agricultural Education, A

Teacher's Guide, Preliminary Draft, #ED 090389 A 166-page quide designed by South Carolina's State Department of Education A one year high school course on ecology, weather, land use, population, and our . Contents environment as they relate to agricultural education

Field Learning Activities, #ED 080366

Published by Nolde Forest Environmental Education Center, Reading, Pennsylvania for ementary and junior high use" 281 pages. Multidisciplinary activities on the following topics: soil study, animal traces, watersheds. ecosystems, food chains', stream surveys, and effects of air pollution. Outdoor education emphasized

Environmental Activities, K-12 Environmental Education Program, Summer Work, 1972.

Prepared by the Menomonie (Wisconsin) Public Schools, this 42-page guide has 38 multidisciplinary "activity Environmental Education Curriculum Guide. Grades 1-12, Experimental Draft, #ED 081641

A 327-page guide published by Somerset (Kentucky) Board of Education for K 12 Contains environmental activities for integration into almost all regular courses

Teaching Materials for Environmental Related Courses in Agriculture Occupations Programs. #ED 085485

Published by Southern Illinois University, Carbondale, Department of Agriculture Industries, Could be used in 9th and 10th grade biology classes Topics ecosystems, energy and nutrient flow, land use, population, energy crisis natural resources, food production and supplies. and ecological current events

Environmental Activities, Senior High School. #ED 099215

Published by Laramie County School District 1. Chevenne, Wyoming Includes learning activities on ' advertising as an ecological cop-out, recycling, optimum environments; hydroponics, pest control, and controlling smoke, lead, and phosphate pollution 89 pages

Mounds View Environmental Education Project, Report No. 1. #ED 063162, 1971

This 58-page guide was prepared for the National Science Teachers Association's meeting in Washington, D.C. Includes a senior high guide for teaching "Environmental Problems and the Future of Man" (population explosion, food supply, natural resources, water and air pollution), junior high guides to studeis on soil conservation, animal poetry, pollution studies, and classroom and outdoor activities for both the senior high and junior high guides

Geography in An Urban Age — Curriculum Guide. 1970, McMillan Company.

High School Georgaphy Project — Unit 5 (Environment tal Education)

Habitat and Resources

Habitat and Man

Two Rivers — different cultural approach to water use Watching — a study in environmental change as a result of suburbanization

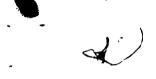
Rutile and the Beach - conflict between mining and recreation land use

Flood Hazards — flood plain management

Water Balance

Waste Management - a case study

The High School Geography Project was developed by the Association of American Geographers, 1710 16th Street, NW, Washington, D.C. 20009. The Association procedures secondary and college educational materials that deal with how geography effects the environment

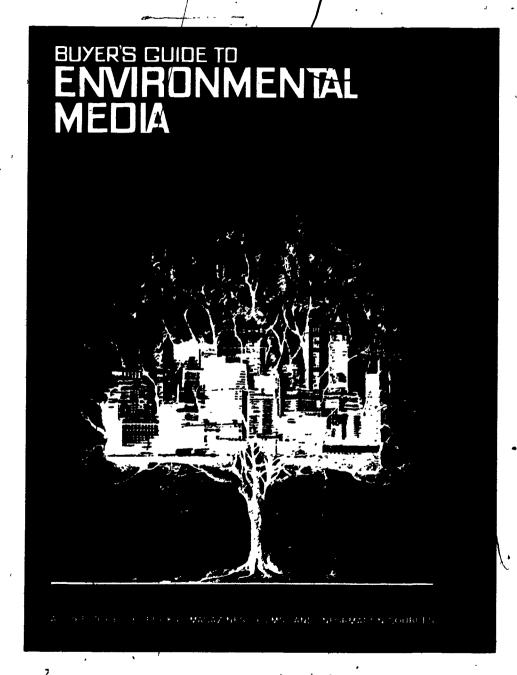




GUIDES AND CATALOGS

Buyer's Guide to Environmental Media: A Directory of Books, Magazines, Films, and Information Sources.

A quarterly smattering of environmental resources in all subject areas. There is a wealth of information in the sixty-five page catalog. There is a scaled down version of The Environmental Film Review. Although The Buyer's Guide is smaller, it should be considered that it is infinitely more economical Available from. Environmental lifformation Center, Media Services Department, 124 E. 39th Street, New York, New York.





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Conservation Directory: A List of Organizations, Agencies, and Officials Concerned with Natural Resource Use and Management.

An exhibitive annual index of organizations and people officially involved in environmental and wildlife conservation. It is considered the top publication in the field. Available from: National Wildlife Federation, 1412 Sinteenth Street, NW., Washington, D.C. 20036.



ECOL Book Catalog.

First launched as a public department of the Minnesota Public Libraries in April 1972, and funded by the state to lend books and provide information without charge to Minnesota residents. Brings together publication which relate to our physical environment and our impact upon it. The annotated list of bibliographical and resource materials would be helpful to individuals with a specific reference in mind.

Environmental Film Review.

The directory is a compilation of 600 superior environmental films and provides information on length, purchase and rental costs, distributors' addresses, and film descriptions. STATE DEPARTMENT OF HEALTH AND MENTAL HYGIENE, Environmental Health Advanistration, 610 N. Howard St., Baltimore, 21201

(State water pollution control program for sewing treatment.) Director: HOWARD E. CHAMEY (301, 383-2740)

STATE SOIL CONSERVATION COMMITTEE, Parole Pieza Office Bidg., Annapalis 21401 (301, 257 1336)

(A state agency established in 1937 to organize soil conservation districts and to give guidance and severance to districts. Membership includes representatives from the Department of Netural Resources, Department of Agricultura, Menyland Agricultural Commission, Upiversity of Menyland, Menyland Association of Boll Conservation Districts, and four soil conservation district supervisors. The Committee became a unit of the Menyland Dept. of Agricultura Jan. 1, 1973.)

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Aset. Director, Agricultural Programs. ELWYN E. DEAL, University of Maryland, College Park 20742 (301, 454-4407)

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Horn Point Environmental Laboratories, Cambridge 21613 and
g. Crisfield Laboratory, Crisfield 21817

Resident Engineering Scientist: PAUL N. WINN, Jr Cheepeate Biological Laboratory, Solomons 2088 Inland Research Laboratory, College Park 20742 Appatichisn Research Liboratory, Lifvate 21502

CITIZENS' GROUPS

MARYLAND WILDLIFE FEDERATION, P.O. Box 7207, Baltimore 21218 (301, 467-320J)

(A representative statewide organization, affiliated with the "National Wildlife Federation, primarily devoted to the wise use, preservation, aesthetic appreciation, and restoration of wildlife airld other natural resources. Organized 1961)
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Secretary: NORMAN BREIDENBAUGH, 4130 Glén Park Rd., Baltimore 21236 (301, 296-4258)

Affiliate Representative PAUL M. BREIDENBAUGH Alternate: LARRY L. POWERS, Jr., 827 Washington St., Hagerstown 21704 (201, 678-5187)

Editor PAUL M. BREIDENBAUGH

CHERAFEASE BAY POUNDATION, SEC., P.O. Box 1709, Prince George & East Sts. "Church," Annapolis 21404 (301, 266-8816) (A nonprofit charitable, educational and representational membershop organization established to promote the environmental waters of Cheapeale Bey, including its tidal tributaries. The Foundation operates three programs, critizen representation, environmental education, land preservation. Organizat 1966.) President: TROMBRIDGE STRONG, Philadelphie

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Staff Attorney: F. LINES KELLY

Educational Director: JOHN PAGE WILLIAMS, Jr Membership Director: ALBERT WINCHESTER III Biologest: NAMCY (1985) A4 F

Publications, CBF Newsletter; Chesapeake Bay, Journal

CONSERVATION EDUCATION COUNCIL OF MARYLAND

(Encourages activities and development programs, that belp educate the public in the conservation of our netural resources. Helps coordinate, the efforts of the many organizations in Maryland heving an interest in conservation education. Organized: 1964.)

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20795 Executive Secretary: MALCOLM KING, 11131 Geme Preserve Rd., Gelthersburg 20670

MARYLAND ASSOCIATION OF SOIL CONSERVATION DISTRICTS, INC., Parole Plaza Office Bidg., Amegoiis 21401 (301, 267: 1338)

(The Association was formed in 1945 to exchange information and effect cooperation between the Maryland soil conservation deterricts; to cooperate with conservation agencies; and to promote the interest and activities of civic and other organizations in the conservation of soil, water, and related natural resources. Membership is composed of all Maryland soil conservation district supervisors.)

President: FRED LIESKE, Rt. 1, Rising Sun 21911 (301, 656-5270)

Vice President: WILBERT R PAUL, R.D. 1, Box 116, Mt. Sevege 21545 (301, 264-4842)

Secretary DALE E. CHURCHEY, State Soil Conservation Committee, Parole Plaza Office Bidg., Annapolis 21401 (301, 267 1238)

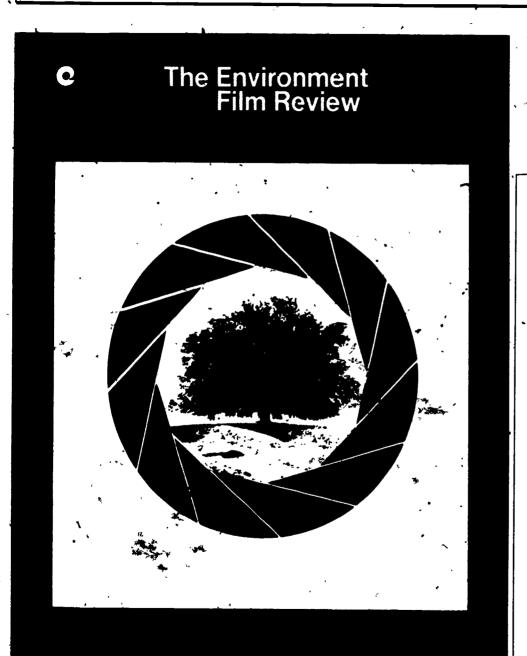
Tresourer: FLOYD ALLRED, Colora 21917 (301, 658-4412)

MARYLAND EINMONMENTAL TRUST, & E. Myberry St., Beltimore 21202 (301, 383-4264)

(Formed to conserve, improve, stimulate, and perpetuate the seethetic, natural, health and welfere, scenic, and cultural qualities of Maryland's environment. Works with County Committees, Essement program, land use, and legislation. Created by State Legislature: 1967)
Chairmen: GEORGE & WILLS, 7914 Shengood Ave., Ruston

Chairman: GEORGE S. WILLS, 7914 Sheryood Ave., Ruston 21204 (301. 823-9243)





The Environment Film Review is an extremely worthwhile catalog. The Environmental Information Center, although a profit making group, seems genuinely interested in facilitating access to environmental information the Film Review is also available at some public libraries for reference room use only. Available from Environmental Information Center, Film Reference Department, 124 E 39th Street, New York, New York

Note When ordering, emphasize the fact that you are a non-profit educational organization

Environmental Films Available on Loan From

Agencies of the Federal Government.

An excellent listing of free films available from governmental agencies Ordering the films can be a drawback, for since demand is heavy for such a service, requests must be made up to three months in advance of the date needed. For most films, the borrower pays only for insurance and fourth class return postage

The scope of the films varies ranging from the Department of Agriculture cartoon Adventure of Junior Raindrop to the award winning documentary A Question of Values, about a small Maine town town by a conflict between environmental preservation and economic development in the form of a huge oil refinary Available by written request through: Office of Education and Manpower, Environmental Protection Agency, Waterside Mall, 401 M Street, SW., Washington, D C. 20460

Publications in Environmental Education: Bibliography of Federal Government Materials.

raphy of Federal Government Materials.

This is an annotated guide to pamphlets and booklets published by the Government Printing Office under the auspices of specific environmental related government agencies. The pamphlets cover many subject areas and prices vary, with most costing between 25 and 50 cents. Before ordering the materials, however, check for them in the vertical file of your school and public libraries, since librarians frequently are on a government mailing list of new publications. Available by written request through Office of Education and Manpower, Environmental Protection Agency, Waterside Mall, 401 M Street, SW, Washington, D.C. 20460

Environment and Outdoor Education Materials
Catalog #2.

This catalog lists over a thousand kits, games, and ideas having to do with the environment and related subjects. Available from: Environmental and Outdoor Education Materials Company, Dowling, Michigan 49050.

Can't find that ecology book that you've been looking

Write:

Ecology Center Confederation 13 Columbus San Francisco, California 94111

The Confederation handles out-of-print ecology classics.

MORE, MORE, MOR

Buffalo: An Ecological Success Story. (MCPS F-6524) P.J.J.S. 13 min. color.

Environment.1 (MCPS F-6287) K,P. 5 min. color.

Forest Fleherman: Story of An Otter. (MCPS F-6329)
P.J.J. 16 min. color.

How to Study Ecology:

P.J.J. 11 min. color.

Life in An Old Tree. (MCPS F-8353) P.J. 13 min. color.

Life on the Forest Floor: A First Film. MCPS F-6518)
P. 10 min. Color.

Oceans: The Silent Crisis. (MCPS F-6389) 1,J,S. 24

min. color.

Shows contamination of the Mississippi River with

arsenic, cyanide, mercury, and other wastes.

The Enduring Wilderness. (MCPS F-6352) J,S: 28 min.

color.

Sorry, No Vacancy. (MCPS F-6331) J,S. 52 min. color.

Population growth and the environment.

The Restless Earth: Geology and Man. (MCPS F-6477) J.S. 19 min. color.

Nan producing carbon dioxide and exhausting ores.

The Sixth Continent: (MCPS F-6513) J,S. 21 min.

color.

The Plow That Broke the Plains. (MCPS F-6513) J.S.

21 min. color.
Social, economic, and environmental history of the Great
Majos up through the Dust Bowl. A classic, with music by
Virgil Thompson.

Wanted Alive. (MCPS F-6240) P.J. 10 min. color. Pollution, insecticides, and wanton killing threaten animal species.

What's on Earth? (MCPS F-6336) I.J.S. 10 min. color. Martians visit Earth and note the dominance of the automobile.

Who Stole the Quiet Day. (MCPS F-6527) P.I.J. 16 min. color.
Noise pollution.





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